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HARMONIC MATERIAL AND ITS USES

ADOLF WEIDIG

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To my beloved father's memory

HARMONIC MATERIAL AND ITS USES

A TEXTBOOK

FOR

TEACHERS, STUDENTS AND MUSIC LOVERS

BY

ADOLF WEIDIG

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FOREWORD

A new text book dealing with a subject which has seemingly been completely explored must prove to have good and sufficient reason for its "right to exist".

I am not a theorist, but essentially a practical musician, having served our beloved muse devotedly in varied ways. I have helped to educate innumerable students and their needs have taught me that which I am passing on to other young musicians in this book, "Harmonic Material and its Uses", with grateful acknowledgment of their (albeit unconscious) coöperation. I have learned that satisfactory results are not obtainable when the student is taught only to "fill out" examples invented by the teacher or provided in textbooks. The student can prove his comprehension of the subject matter much more convincingly by furnishing his own illustrations according to given models. This will surely lead him to independent thought and develop his imagination—the greatest asset of the creative and re-creative musician.

The introductory chapter deals with general information, a foundation for the succeeding practical work. "Don'ts" have been limited to those necessary for the inculcation of "good taste"; rules and laws are based on examples found in the compositions of the master musicians, the science of acoustics being of comparatively small value in modern music, so that scientific reasoning is frequently precluded. All chord structures—the result of melodic leading of voices—have been analyzed according to their character as possible tonic, dominant, or subdominant sounds. The chapters on "Transition and Modulation" contain perhaps the most independent thought along new lines and I hope that the logic of their ideas will appeal to every thinking musician. Another rather unusual feature is found in the predominance of original illustrations, the student being obliged to search for corroborating examples in the compositions which he plays and hears. I also claim that the students who thoroughly understand the subject matter contained in this book will have no difficulty in comprehending the contents of any textbook dealing with the same subject.

The object of all music study is **"Learn to Listen"**.

Adolf Weidig,

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HARMONIC MATERIAL AND ITS USES

CHAPTER I

INTRODUCTION

The object of study of any branch of the Art of Music must be first of all: **"Learn To Listen".** These three words embody the quintessence of musicianship. The watch-word for every music student must, therefore, be **"Learn To Listen"** to yourself, to others, and to the messages of our great masters.

The training of the "musical ear" must begin with the first lesson, whether the instrument chosen be the voice, the piano, violin or any of the many orchestral instruments. The necessary requisite for the study of music is natural talent. Talent means being endowed with an ear capable of development into a discriminating ear; a sense of musical logic; and, further, the physical adaptability for the chosen instrument.

When in the course of study the teacher discovers in his pupil the possibility of acquiring "absolute pitch", the responsibility of the teacher regarding the student's musical development increases considerably. Absolute pitch is a gift of the muse to her disciple, which is, in seventy-five per cent of all cases, the surest guarantee of talent above the average; and consequently the chances of one thus endowed of reaching a definite goal are much greater than those of his less fortunate fellow-students. Teachers, as a rule, do not attach sufficient importance to the manifestation of this part of the student's equipment. This is most unfortunate, as the neglect of this manifestation often leads to a stunted growth or to the total extinction thereof, for lack of proper nourishment. Almost every musical child is endowed, at least, with the possibility of developing absolute pitch, and the neglect of that possibility on the part of the teacher comes close to being criminal carelessness. Absolute pitch, by itself, becomes a nuisance rather than a help, unless it is coupled with a sense for musical logic. This logic is peculiar and difficult to define—it embodies the acute sense of rhythm, the feeling for melodic and harmonic phrasing—in short, musical logic is an appreciation of that which has become "natural" through evolution. This logic is subject to the influences of life itself. Its changes are apparent from generation to generation—altho its basic principle, which is the law of acoustics, has remained unaltered throughout the history of the world—these laws are elemental. (This will be more fully explained later on.)

The third necessity of musical talent—the adaptability for the chosen instrument—is as important as it is obvious. Cases of misjudgment of adaptability are by no means rare; a mediocre violinist might have become an excellent pianist, or vice versa, and worst of all is the mediocre teacher who might have become a brilliant executant. Circumstances, environment, and various necessities may have been responsible for these unfortunate conditions.

To reiterate—the requirements for the successful pursuit of the study of music are: Ear, Logic and Adaptability.

The study of the "Theory of Music" brings about the unification of these requirements. It is the leaven which raises the standard of musicianship. It teaches preëminently, "how to listen." Without its knowledge people, even though engaged in professional playing or singing, do not deserve the title "musician". They are no better than the dilettante.

When should this study begin? As soon as the child is able to comprehend. Elementary knowledge may be absorbed at an early age. This includes—singing, ear training from the standpoint of melodic progression, intervals, scales and the simplest chords, a little of the history of music, confined to some data connected not only with the lives of the great composers but also with the doings of those who have written and are writing for the children. (Too often the child knows the music he plays only by its title or perhaps only by the color of its cover.) At a later age the study of the history of music should be treated most seriously—as the understanding of any composition depends on the knowledge of the "times" during which it was written. Stupidity is the only excuse, if such it may be called, when music students evince comparative likes or dislikes for compositions and composers that belong to entirely different periods. Lastly, I wish to call attention to the very beneficial study of Dalcroze's Eurythmics—it is a complementary branch of music, developing concentration, artistic expression and grace; and is almost certain to conquer the greatest foe the musician knows, i. e., self-consciousness.

After the young student has proven that he has laid a solid foundation, on which further building can be safely attempted, then he may begin the study of the more advanced work of the "Theory of Music". The time is seldom ripe before the student is about sixteen years of age. He must bring to it, first of all, what one might call a working knowledge of the piano. This much abused instrument is after all the "open sesame" to the acquirement of musicianship. Without it the study of Theory is more or less futile and can never lead beyond the merest elementary knowledge. (I refuse to teach instrumentalists and singers who do not play piano.) This does not mean that the piano should be their principal instrument—but they must be proficient enough to illustrate their own work and to play, according to their technical equipment, various compositions of the masters, thereby sensing the sound and meaning of such works.

The second requirement is the ability to sing. Everybody can learn to sing—in his or her way. The proportion of cases where an otherwise musical person is unable to use his singing voice is infinitesimally small—such cases are usually the result of a physical disorder of the vocal cords. The student who can sing correctly any part of any composition—be it a part of a vocal or an instrumental composition (including parts of an orchestral score) proves well-nigh conclusively that his mental hearing can, at least partially, be relied upon. I am using the word "partially" advisedly: complete mental hearing can only be revealed in the creation and, perhaps, in the re-creation of really important compositions.

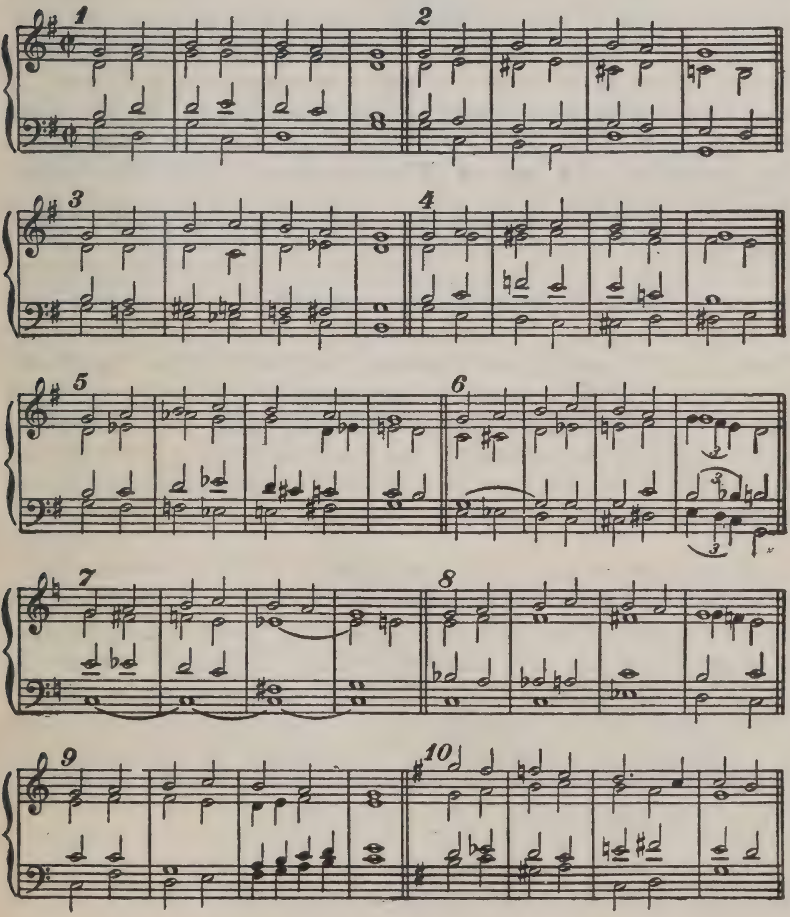
So far, I have dealt with the requirements of the student and it might not be amiss to say a few words about the requirements of the teacher of the theory of music. He should be the most versatile musician among musicians. First of all—he should be a composer of standing. An instrumentalist does not go to a teacher who understands a particular instrument only theoretically—he wants and needs to be shown. Unfortunately any musician with a book knowledge of theory thinks himself capable of teaching that most important branch of music study; and yet a teacher ought to be able to do the work which he asks of a student at least as well as the student and preferably better. Further, he should play at least one instrument well—if only one instrument it must be the piano. He must be tolerant, which means able to put himself in the place of the student. If he has confidence in the student's musical ability, he must weigh carefully, before criticising and condemning as faulty, that which the student has conceived as sounding well.

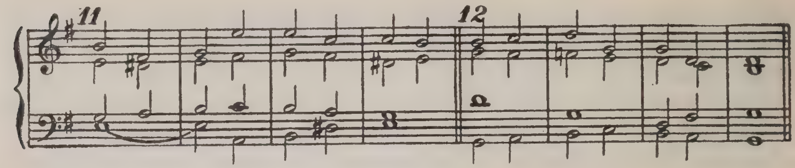
The principal reason why such a teacher must be a practical, versatile musician lies in the fact that the so-called "Theory of Music" is no theory at all—it is just as practical as the study of an instrument or voice. A theory may lead to practical results —but musical theory is the result of practical music. Its basic laws are inflexible; its details are the results of the study of the master works. No text book can ever be conclusive; that which is wrong to-day may be right to-morrow. A composer who says something new should be listened to with respect, if he proves by his workmanship, that he is worthy of it. Workmanship can only be acquired by work—there is no short cut to perfect musicianship—hurry spells "failure"—thoroughness "success".

It is customary to divide practical theory into these branches: Harmony, Counterpoint, Orchestration, Musical Form. This book deals principally with Harmony, but even this subject cannot be fully understood without frequently referring to the other branches. All our study must, of necessity, be retrospective— each new topic must make the meaning of the last one clearer. In a smaller sense this is even true of the individual lesson. It is not even desirable that each new lesson should be so thoroughly understood as to make perfect work possible. Such results prove, only too often, that there is an academic, lifeless understanding, which means that such results are obtained at the loss of imagination. It is frequently necessary for the teacher to talk on subjects which are beyond complete comprehension by the student. This is not only necessary—it is even advisable because it must act as a stimulant to further work.

DEFINITIONS

The accepted definition of the study of Harmony is: it deals with tones—their relationship to each other (intervals) and their combination into chords. It is, however, of greatest importance to realize at the outset that "Harmony" in a historical sense is limited; in fact, it is reducible to the three elements of tonic, dominant and subdominant. In the new conception these elements must be considered as functions—i. e., every combination of tones into chords produces the effect of one of these elements. Furthermore, Harmony depends on Melody—i. e., a melodic thought contains harmonic possibilities. To realize these possibilities and to know how to utilize them is the great object of the Study of Harmony. Examine for instance, the following rather insignificant melodic thought, capable of being conceived harmonically in ever so many different ways: its insignificance, melodically speaking, lies in the fact that it has no rhythmic variety—its strength lies in its diatonic scale character.

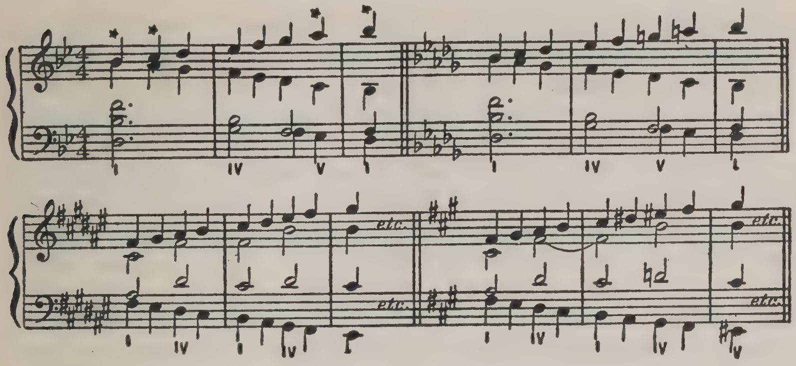




The student must play these examples; and while some of them may at first sound strange, repeated playing will soon convince him of their feasibility. Space forbids inserting more than these twelve settings, yet **hundreds** could be conceived. Numbers 1 to 6 give the impression of the key of G Major—Numbers 7 to 9 C Major. In examples 10, 11 and 12, the so-called melodic thought has been placed in the Alto, Tenor and Bass respectively. Chords are, after all, nothing but the simultaneous sound of moving voices. (The term "voice" must be regarded in its larger sense—it is not necessarily a human voice—any instrument must be considered a voice.) Moving voices are melodic units; their combination produces harmony. This is primarily the principle of counterpoint—but modern harmony is "Contrapuntal Harmony." The comprehension of "Contrapuntal Harmony" is the object of this book. The average time devoted to the study of this subject should be not less than two years, and a good part of a third year should be used for exhaustive harmonic analysis of well-selected master-works. As I have said before—Beware of the short cut: it leads nowhere!

Counterpoint lays stress principally on the Melodic Unit. The Unit is treated with greater freedom—it is embellished by means of melodic devices, such as passing tones—appoggiaturas—suspensions, etc. The Harmonic Unit—the chord—becomes of secondary importance—altho the harmonic element in modern counterpoint is ever present and it is, therefore, correct to call it "Harmonic Counterpoint". The greatest of all composers, Johann Sebastian Bach, was the master mind who showed us the way to this "species" of counterpoint.

The scale played in contrary motion furnishes one of the best illustrations of contrapuntal writing.



If played by itself, only the intervals marked (*) "sound well." Yet there are larger harmonic possibilities underlying this scale progression and the student will readily concede this after hearing the preceding examples. (If the teacher has to deal with well prepared students, the analysis of these examples will be readily understood.)

The study of Counterpoint is inexhaustible—that of Harmony, limited. The constant thinking and writing of contrapuntal ideas furnishes the composer with that technic which will enable him to create freely at any time.

All knowledge must be acquired consciously. Technic thus **acquired again becomes subconscious and it is the coöperation of imaginative power and subconscious technic** which **creates masterworks.** This also applies to the re-creative part of the study of music—in fact, it applies to all successful human endeavors whether they be devoted to art, industry, commerce or inventions.

Orchestration is the study of the technic and tone color of all the instruments which the modern orchestra comprises. The mixture of the colors and the functions of the various groups of instruments must be considered the most important part of this study. The young student must seek every opportunity to acquaint himself with orchestral literature. He must attend the concerts of our great Symphony Orchestras and listen attentively. Orchestration can hardly be taught—it can be studied, but the ability to apply the result of such study is an individual gift. Most American composers are deficient in the "handling" of the great orchestral apparatus, due, principally, to the lack of opportunity of becoming more intimately acquainted with its resources. Those composers who have been fortunate enough to play in orchestras are usually most successful in writing for this greatest of all instruments. Even some of our best composers have been unable to grasp the possibilities of the orchestra completely. Therefore, learn early to listen to all its many subtleties! (If advisable, the teacher should tell the students of the component parts of the orchestra—explain the different groups of instruments and call attention to the difference in sound of the orchestras of the classical period and those of modern times. This is of particular value where the student has opportunities of observing this difference, i. e., if he is fortunate enough to live in a city where orchestral concerts are given regularly.)

Musical Form is the study of the laws of proportion. These laws are most elastic—they also change with the times, altho the smaller compositions by modern composers differ only in content, and not in outline, from those of the pre-classical period. As a matter of fact, the older types are much more interesting from the rhythmic standpoint, which is hardly compensated for by the more colorful treatment of these same types by modern writers.

The development of the Sonata Form is perhaps the most notable achievement of the composers of the last two centuries. In spite of the opinion of some of our modern critics this most vital of all forms is by no means dead—it lives with the vitality of every new generation. Its principles are applicable (and are applied) to almost every new composition—no matter what its name or title. The modern composer strives (or should strive) for the great rhythmic freedom of the writers of the contrapuntal period. This, combined with the increased richness of color of modern harmony, characterizes present day compositions.

MORE DEFINITIONS

Tone is the product of regular measurable vibrations. Its **pitch** depends on the velocity with which these vibrations follow each other, its **intensity** depends on the length (amplitude) of the vibrations, its **quality** on the mechanical means employed in the production of these vibrations.

Absolute Pitch is perfect tone memory.

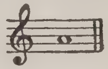
Relative Pitch is the ability to gauge distances and combinations from a given tone-basis.

Rhythm—in its widest sense—is the recurrence of points of repose (falsely called accents) at more or less regular intervals. In its smaller meaning it deals with the length or shortness of sound of the tones of a melodic thought.

Accent is emphasis. Unfortunately "points of repose" and "accents" are frequently used synonymously. It is not at all necessary to emphasize the first beat of a measure. This custom is undoubtedly the result of the combination of dance-motions and music. Too much regularity becomes monotonous and should be avoided. Music of the so-called civilized peoples has suffered distinctly from the slavery which the dance, with its all too regularly recurring accents, has imposed upon it. Civilization means order—but too much order in art hinders the free development of imagination. Savage peoples have suffered less from this restriction, hence their much greater freedom of rhythm, even in their dances accompanied by music. Poetry with its metric designs has also exerted a baneful influence on rhythm in music. Music is akin to poetry only as it must be poetic—but that, in a general sense, only means idealizing thought and expression. Prose may be more poetic than a poem and blank verse is, to my mind, best adapted to the expression of poetic ideas. In music, blank verse is certainly to be preferred to the monotony of regular metric designs.

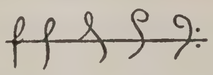
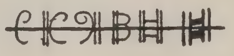
The **Bar** indicates equal division of a musical thought into larger or smaller time values. I am more inclined to think that the bar is only too frequently a "bar" to the greater understanding of musical ideas; in fact, music has been placed behind "bars"—imprisoned—confined. It will gain its freedom one of these days when bars will be eliminated and the "phrase" will take their place. This will make phrasing possible according to the ideas of the composer.

Correct **Phrasing** is the ability to appreciate points of rest and those of unrest. Unfortunately the means of indicating phrasing are in a very chaotic state. There never have been any definite phrasing marks. Those which are employed today are mostly borrowed from the bowing marks invented for the use of stringed instruments played with a bow. These instruments were perfected long before the piano became the important factor in the world of music that it is today. Serious compositions, written for the piano exclusively, have only been attempted during the last two hundred years. In casting about for phrasing marks for these compositions, the bowing marks were adopted as a convenient means. This has brought about an intolerable confusion which has not been satisfactorily dispelled even in our times. Order can only be introduced by the adoption of a set of phrasing marks, differing most decidedly from those marks which indicate legato, staccato and other effects of detail. Therefore, beware of a slavish interpretation of phrasing marks in compositions for piano! A violinist may phrase incorrectly but he will never confound his "bowing" with phrasing marks.

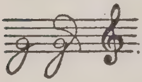
International Pitch is a standard tone level, first adopted by the French Academy in 1858 and ratified by an International Congress of Musicians at Vienna in 1885. The almost uniformly adopted pitch tone is  with 435 vibrations per second. Lately it has been raised again to 440 for organs and pianos used in conjunction with orchestras. This is a wise move, for the pitch of orchestral instruments rises slightly as the temperature of a hall increases, a condition which affects organs and pianos only imperceptibly. The instrument responsible for the pitch of the orchestra is the oboe, because it is perhaps the least affected by atmospheric conditions. The man responsible for the pitch of your piano is the **tuner**. He must be held to strict account for the well-being of your instrument, but you must give him the chance by contracting for at least three tunings a year and preferably four. International pitch for your instrument is an absolute necessity; if it deviates at all it might be slightly higher but never lower. If the pitch of a piano is, through carelessness on the part of the tuner, permitted to drop it can seldom be raised again. Owing to the sensitive ear of the child this may impair its prospect for acquiring absolute pitch. For the musician with absolute pitch it is agony to play on such an instrument. An instrument tuned to **concert pitch** is just as bad. This is a half tone above international pitch and the making and selling of pianos thus tuned should be prohibited!

Time Signature indicates the number of beats to a measure. There are really only two divisions possible—dual and triple time. $\frac{4}{2}$, $\frac{4}{4}$ (C), $\frac{2}{2}$ (¢), $\frac{2}{4}$, $\frac{4}{8}$, indicate dual time; $\frac{3}{2}$, $\frac{3}{4}$, $\frac{3}{8}$, triple time; $\frac{6}{4}$, $\frac{6}{8}$, $\frac{12}{8}$, are combinations of dual and triple times; $\frac{9}{8}$ is a combination of three triple time-units. All dual time may, by the use of triplets, become a combination of dual and triple time. Here also reform would be advisable in indicating only the number of time-units in the measure. For instance, the figure 4 could indicate $\frac{4}{4}$ (quarters), $\frac{2}{4}$ (eighths), $\frac{12}{8}$ (dotted quarters); the figure 6 could indicate $\frac{6}{4}$, $\frac{6}{8}$ or $\frac{3}{4}$; the figure 2: $\frac{2}{2}$, $\frac{2}{4}$, $\frac{6}{8}$; the figure 3: $\frac{3}{4}$, $\frac{9}{8}$, etc. Indication of the number of time-units in the measure aids considerably in the right conception of the tempo desired by the composer.

Tempo marks indicate the velocity with which the time-units occur in succession.

The Clefs are signs which indicate the "reading" of the pitch. The oldest ones are the C and F clefs. The introduction of these became necessary owing to the rather unintelligible state into which the writing of musical signs, previous to the eleventh century, had degenerated. This music notation antedating the beginning of our modern system by several centuries was called the "neums" notation. It resembled very much modern stenography. But singers and instrumentalists had to rely too much on tradition for the interpretation of these signs and so, to restore some order into conditions which became more and more chaotic, a line was drawn horizontally through these signs. The musicians were told that whenever these signs touched this line, the "tone" was to be F. Later on a second line was added which located the pitch C. In this way our present system of lines and spaces as well as the idea of clefs originated. The F clef became the prototype of our modern bass clef, which even to-day is known as the F clef. It, as well as the other clefs mentioned further on, underwent a series of changes caused by the desire to embellish, in a more or less fanciful style, the beginning of a piece—the same as in letterscript, where the first letter of any piece of writing was frequently most artistically illuminated. The various shapes in which the letter F is found in old music manuscripts show its transformation into our present day Bass clef.  When the fourth "stage" was reached the sign was turned around completely and the two dots were added which even today enclose the F line. The C clefs underwent a similar transformation. 

The C clef is of great importance, even in our modern notation—it is indispensable and in the course of his study every student must become familiar with it, as otherwise "score reading" will be impossible. The C clef is movable: if it is placed on the third line it is known as the Alto clef, if placed on the fourth line it is called the Tenor clef and if found on the first line Soprano or Discant clef. This last named is hardly ever used by modern composers, but formerly every soprano part was written in it and in every authoritative reprint of the works of the older classics this clef is met with as well as the others. The Alto clef is used in orchestral scores for the notation of viola parts and frequently for the first trombone. The tenor clef is necessary for 'cello, bassoon and trombone parts. All attempts to eliminate these C clefs have failed and rightly so. They are a necessity caused by the range of the instruments and those people who advocate their abolition are usually incapable of reading them. The Treble or G clef is an embellishment of the letter G—it is also called Violin clef, probably because the part written for the instruments of this type (violin) was first thus notated:



It is the latest of the now existing clefs, but is also met with as far back as the fourteenth century. There have been a number of other clefs in existence, but as these are found only in music antedating our times, they concern the music historians more than us. If the student understands that any clef is a "pitch indicator" he will have no difficulty in deciphering music, no matter which clef is used.

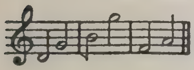
I have given only a few definitions of terms which require a better understanding than usually exists in the mind of the student. As a rule, a student should consult standard dictionaries whenever he meets with terms printed in music which are unfamiliar to him.

CHAPTER II

This second chapter demands "practical work" on the part of the student. I have made a practice of beginning such work with the first lesson. The topics touched upon in Chapter I are used by me as material for talks to the class. The well informed teacher can easily amplify this material, devoting the first part of each lesson to "a lecture" and the second part to the work outlined in Chapter II. The average time required for a complete understanding of Chapters I and II is from ten to fourteen weeks, depending on the thoroughness of the preparation received by the student during his earlier years of music study.

INTERVALS

Interval is the distance between two tones measured according to the adopted system of whole and half-steps. The distance is gauged by means of the staff degrees and the intervals are named accordingly: Primes (or unisons) seconds, thirds, fourths, fifths, sixths, sevenths, and octaves. The ninths, tenths and all further intervals are simply extensions of the former, altho the ninth has a very definite harmonic value which will be explained later.



From D to G is a 4th, because the staff degrees involved are $\overset{1}{\text{D}}$ $\overset{2}{\text{E}}$ $\overset{3}{\text{F}}$ $\overset{4}{\text{G}}$. From B to G is a 6th, $\overset{1}{\text{B}}$ $\overset{2}{\text{C}}$ $\overset{3}{\text{D}}$ $\overset{4}{\text{E}}$ $\overset{5}{\text{F}}$ $\overset{6.}{\text{G}}$. From F to A is a 3d, $\overset{1}{\text{F}}$ $\overset{2}{\text{G}}$ $\overset{3}{\text{A}}$, etc. As to their specific size, intervals are either perfect, major, minor, diminished or augmented.

Primes are either perfect or augmented.

Seconds are either major or minor or augmented.

Thirds are either major or minor or diminished (rarely augmented).

Fourths are either perfect or diminished or augmented.

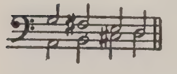
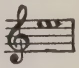
Fifths are either perfect or diminished or augmented.

Sixths are either major or minor or augmented (rarely diminished).

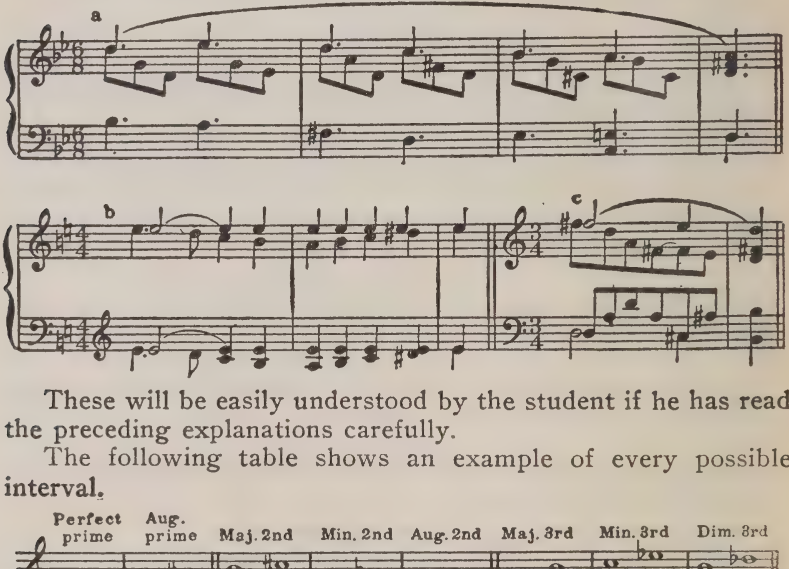
Sevenths are either major or minor or diminished.

Octaves are either perfect or diminished.

If two voices meet on the same tone they form a perfect prime.

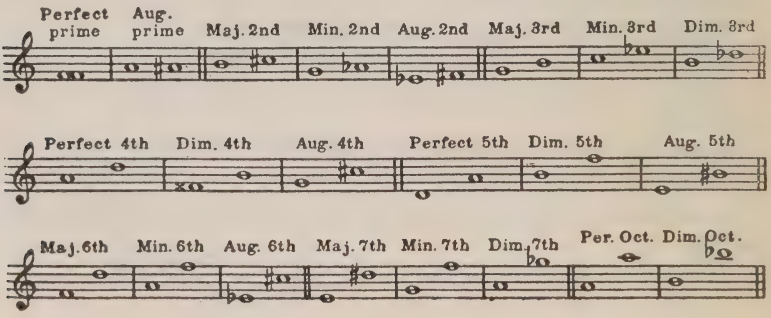
 This is indicated by a double stem. If whole notes form the prime they are written  Strictly speaking the perfect prime cannot be considered an interval, as the two tones involved are the product of the same number of vibrations—yet difference in tone color makes distinction possible—the same A sounded by both the piano and the violin gives the impression of difference.

Other forms of perfect primes met with in piano music:

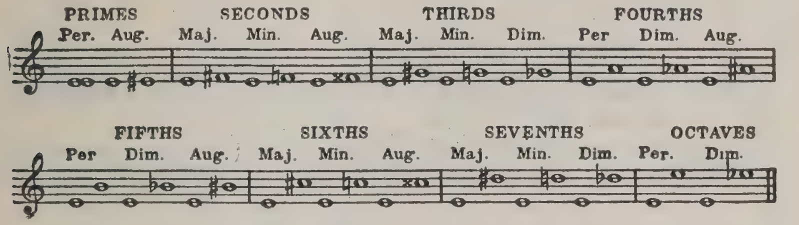


These will be easily understood by the student if he has read the preceding explanations carefully.

The following table shows an example of every possible interval.


Perfect prime
Aug. prime
Maj. 2nd
Min. 2nd
Aug. 2nd
Maj. 3rd
Min. 3rd
Dim. 3rd
Perfect 4th
Dim. 4th
Aug. 4th
Perfect 5th
Dim. 5th
Aug. 5th
Maj. 6th
Min. 6th
Aug. 6th
Maj. 7th
Min. 7th
Dim. 7th
Per. Oct.
Dim. Oct.

If all possible intervals are formed from a given basis, the following examples will show the result. The given basis is the tone E.

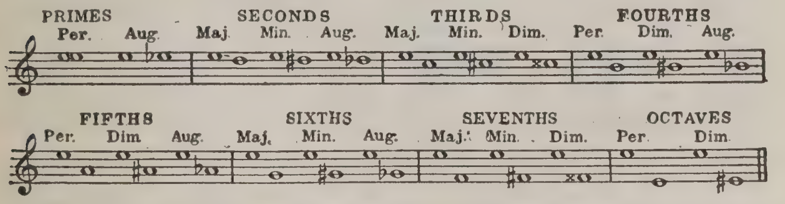

PRIMES
Per.
Aug.
SECONDS
Maj.
Min.
Aug.
THIRDS
Maj.
Min.
Dim.
FOURTHS
Per
Dim.
Aug.
FIFTHS
Per
Dim.
Aug.
SIXTHS
Maj.
Min.
Aug.
SEVENTHS
Maj.
Min.
Dim.
OCTAVES
Per.
Dim.

Lesson: Write all intervals from the following tones, using partly G clef and partly F clef: B, D, G, E flat, C sharp, A, B flat, F sharp, A flat, F (to be amplified at the teacher's discretion).

Intervals are sounded either simultaneously or consecutively. If sounded simultaneously they are the result of the combination of two voices—if sounded consecutively they form a melodic thought. It is customary to read a simultaneous interval from the lower tone—but a consecutive use makes it necessary to read intervals downward as well as upward. It is, therefore, of importance to learn to recognize intervals from the higher tone as well.

The question, "Of which tone is E the augmented prime?" must be answered, "Of E flat". In other words: E flat is the augmented prime below E.

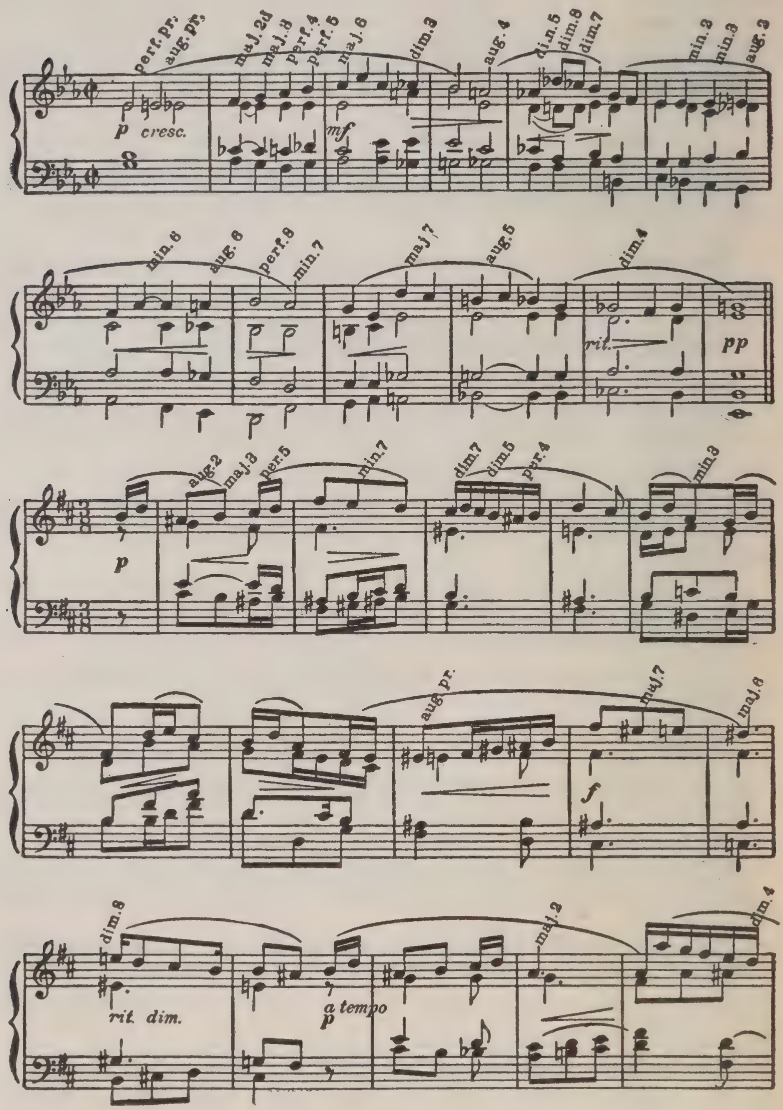
The following example shows all the intervals reading downward from E:

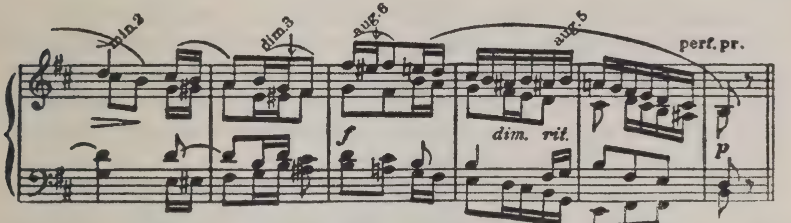

PRIMES
Per.
Aug.
SECONDS
Maj.
Min.
Aug.
THIRDS
Maj.
Min.
Dim.
FOURTHS
Per.
Dim.
Aug.
FIFTHS
Per.
Dim
Aug.
SIXTHS
Maj.
Min.
Aug.
SEVENTHS
Maj.
Min.
Dim.
OCTAVES
Per.
Dim.

Lesson: Write all intervals downward from the tones given in last lesson using partly G clef and partly F clef.

After this work has been done the student ought to be able to point out any interval in any composition.

The following examples contain every recognized interval as the analysis shows. The student must play these examples in order to familiarize himself, somewhat, with the sound of all the different intervals. It would also be profitable for him to analyze every interval contained in the two staves.


perf.pr.
aug.pr.
p cresc.
maj.2d
maj.3
perf.4
perf.5
maj.6
mf
dim.3
aug.4
dim.5
dim.8
dim.7
min.3
min.3
aug.3
min.6
aug.6
perf.8
min.7
maj.7
aug.5
dim.4
rit.
pp
aug.2
maj.3
per.5
p
min.7
dim.7
dim.5
per.4
min.3
aug.pr.
maj.7
f
maj.6
dim.8
rit. dim.
a tempo
p
maj.2
dim.4



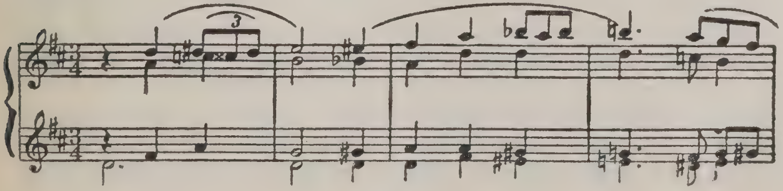
So far the intervals have been only visualized. Recognizing these by sound is an entirely different proposition. Ear training, as a special study, usually leads only to restricted results. The perfectly trained ear of the true musician is the result of years and years of endeavor, "learning to listen". To be able to realize correctly distances between tones in a certain key is only the most elementary achievement. Even recognition of certain chords in given keys is just a little in advance of the first step. A great many elements enter into the training of the ear of which the study of Harmony is only one—altho of prime importance. In order to get the best results from this study, the piano should be used constantly. Theorists who forbid the use of the piano are not true musicians—they can only teach the "dry as dust" matter of our subject, enabling even a deaf person to study harmony. The ridiculousness of this is apparent. The study of the theoretical part of music can have only one object, i. e.—to make **conscious** that which the student has realized **unconsciously** from the first time he heard music—which may have been his mother's lullaby.

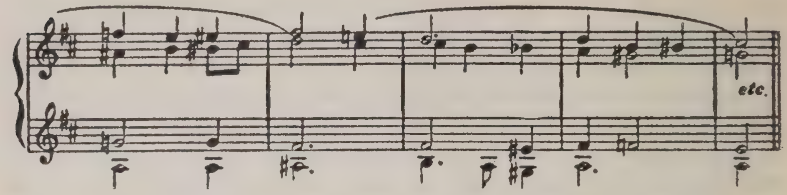
Of course the constant use of the piano has its disadvantages, primarily on account of its mechanical perfection, which is apt to lessen the coördination of the mind and fingers, and frequently leads to "thinking with the fingers"—this must be avoided by all means. Those who can think only with their fingers are cripples, so beware! Use the piano as much as you feel inclined but do not forget to **think**—in other words **use the piano intelligently.** In listening to the sound of the different intervals, the following suggestions in regard to their character will be helpful. Perfect intervals are vague—without distinction. Thirds and sixths have a pleasant sound—the musical term of which is "concordant"—all other intervals are "discordant," i. e., of unrest. They are subject to resolution—in other words they call for a concordant interval for their completion. (It must be understood that these "helping hints" can only apply to individual intervals—in relation to each other, even the concordant intervals may create the impression of unrest,—discord. Really only the first tone (tonic) of an established key, falling on a point of repose, is absolutely concordant—to this all other tones stand in a relation of unrest.)

It may seem strange to those who have already learned their intervals, that I do not teach them from the scale. My experience has taught me that the older and perhaps more conservative way is too limited. It is all well enough, that from D to F sharp is a major third because it is the first third encountered in the scale which is built on D—but it must be remembered that the interval D-F sharp occurs in eight different scales—then why limit its origin to the D major scale? On the other hand it is folly to regard the interval from D to F the lowered third in D major as a minor third simply because it is smaller than the interval from D to F sharp. From D to F is a minor third under all circumstances, no matter where it occurs. This argument applies to every interval because almost all intervals occur in more than one scale, as will be shown later.

It must also be understood that for instance G sharp is not merely a raised G—nor B flat a lowered B. No! Every tone in our music system is an independent pitch with its own individuality. This individuality assumes different aspects as it enters into relationship with other tones. Sharps, flats, double sharps, double flats and naturals are merely signs which, unfortunately, are necessary for the sake of adopted measurements. In this respect our present notation is very deficient. The alteration signs simply show the evolution of the difference in pitch of our present tones B flat and B natural. Originally B flat was called **b rotunda molle** (a round b); when it was intended to sound our present day B natural it was written in an angular way, ♮ **(b quadratum)** and this sign is really the prototype of the ♯ and the ♮, and as it also resembles the letter **h** this pitch is even today known in Germany as the tone **h**. The round b (♭) became the prototype of all our flats. Double sharps and double flats came into use at the beginning of the eighteenth century when the harmonic significance of tones, in relation to others, became more clearly understood. The teacher must insist that the student, in speaking of a tone, call it by its correct pitch name. He must never permit him to say "F," or "C," or "G," etc., even though the sharp or flat be part of the signature. Any one who carelessly names a tone incorrectly, proves beyond a doubt that he was not thinking a "pitch" but merely a "sign". (Insistence on unconditionally correct naming plays an important factor in "ear training".) If the matter of so-called "accidentals" is correctly understood, all foolish hesitancy in the use of these signs will vanish. It is deplorable if, for instance, the diminished third from F♯ to A♭ is taught at the expense of eliminating intervals from F to A♭♭. Both have the right of existence! Neither is the interval from C♯ to F any simpler than the one from Cx to F♯. It must be understood that an interval becomes larger by either raising the upper tone or lowering the lower one and it may be made smaller by lowering the upper tone or raising the lower one. The term "accidental" is an abomination and I wish the theorist who first called it "accidental" had never seen the light of this world! It has created no end of confusion in the untrained minds of music students. Remember: composers do not write certain pitches "by accident," everything is done with "malice aforethought." Therefore, use the term "accidental" discriminatingly. I would suggest substituting the word incidental—yet how much more expressive is the untranslatable German term "Versetzungs-Zeichen!"

Unfortunate nomenclature is also met with in indicating the specific size of intervals. The term "perfect" might stand because the ratio of vibrations of octaves—1 to 2—never varies and that of the fifths, 2 to 3, and fourths, 3 to 4, vary so slightly as to become infinitesimal. That is the reason why certain intervals—as the augmented 3d, equaling a perfect fourth—the diminished 6th, equaling a perfect fifth—the augmented seventh, equaling a perfect eighth, etc., cannot be heard otherwise than as perfect intervals. Nevertheless these intervals are written, altho they have only melodic value and do not occur as part of harmonies.

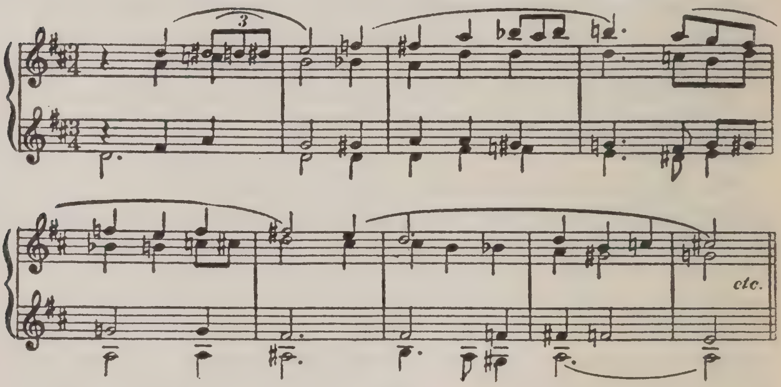


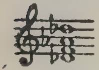


This example contains the following unusual intervals:

Measure 1 C♮ to Cx (double aug. prime) and D♮ to Cx (aug. 7th).
" 2 B♭ to E♯ (double aug. 4th).
" 3 E♯ to B♭ (double dim. 5th).
" 5 A♯ to F♮ (dim. 6th) and G to B♯ (aug. 3d).
" 7 same as in measure 3.
" 8 F♮ to B♯ (double aug. 4th).

A more comprehensible way of writing the foregoing:

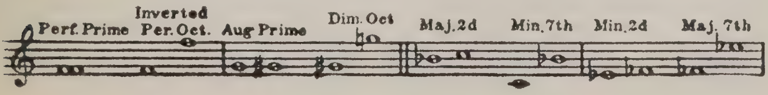


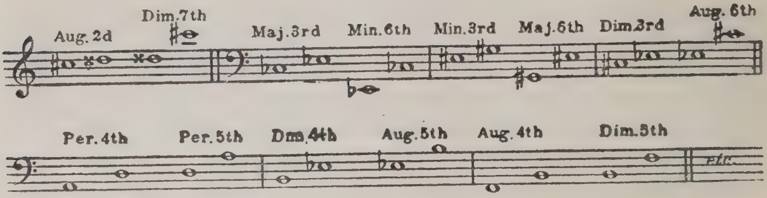
The reasons for giving the preference to the second notation will unfold themselves to the student as he advances. This example is inserted here, merely to show some of the perplexities which may confront him in the printed music which he plays. Composers do not always notate correctly, but frequently write according to "convenience" with the thought in mind of making it more readable. This is most frequently the case in orchestral scores, where the instruments carry only one voice—and the melodic line takes precedence over the harmonic thought. Yet even here, notation for the sake of convenience becomes annoying and irritating to the thinking player and as I have stated before, it becomes perplexing to the, as yet, uninitiated. Incorrect notation may be likened to phonetic spelling—neither of which is justified in the minds of thoughtful people. The terms augmented and diminished, applied to intervals, are good, but major and minor are very misleading as a few "ear tests" will readily demonstrate. If for instance the following chord is struck  and then the 3d F-A♭ by itself—the unsuspecting pupil will invariably call it a major 3d—because of the previously heard D flat major triad. This same test applied to a minor triad—like F-A♭-C—will elicit the answer that the 3d from A♭ to C sounds minor. (It would be better if the terms "large" and "small" were substituted for "major" and "minor" and the latter reserved for tonalities. I still continue the use of the terms "major" and "minor" because they are "familiar" to most students and if the student is cautioned about their, sometimes, misleading sounds the danger of wrong application is minimized.)

Inversion of intervals. An interval is said to be inverted if the lower tone becomes the higher or vice-versa.

If inverted:	Primes	become	octaves.
	Seconds	"	sevenths.
	Thirds	"	sixths.
	Fourths	"	fifths.
	Fifths	"	fourths.
	Sixths	"	thirds.
	Sevenths	"	seconds.
	Octaves	"	primes.

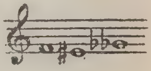
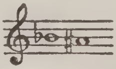
Perfect intervals, if inverted, remain perfect (this is the customary reason advanced for the use of the term "perfect"). Major intervals become minor, minor become major; augmented become diminished and diminished augmented.

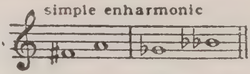
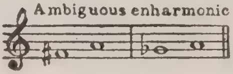




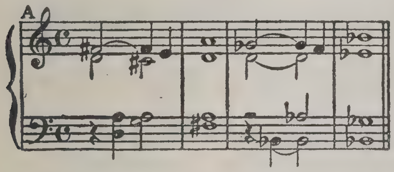
Lesson: The construction of a written and an oral lesson, based on the foregoing, is left to the teacher. It should be in this form: Name and invert and give the name of the inversion of the following intervals—dictating a number of intervals at random.

Enharmonic are tones of the same pitch, differently named. (In reality the distance from C to C♯ is slightly different from that between C and D♭—and from C to D♯ different from that between C and E♭, etc.)

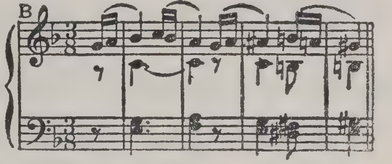
Since the adoption of the division of the octave into twelve equal half steps, the above named differences have been abolished—this is called the "tempered scale", which is used exclusively in the piano, organ and similarly constructed instruments. (This will be more fully explained under the caption Overtones.) For all practical purposes it suffices to know that each white key on a piano has three names  and each black key two names. 

Intervals may be subjected to simple and ambiguous enharmonic. Simple enharmonic necessitates the change of name of both tones,  the size of the interval remaining the same; ambiguous enharmonic produces a different interval.  The former is used as a convenience—where keys with sharps are changed into keys with flats or vice-versa in order to facilitate reading (avoiding the excessive use of double sharps or double flats). The ambiguous enharmonic is of much greater value and constitutes one of the most important and effective means of modulation. Play and listen to the effect of the following examples.

A

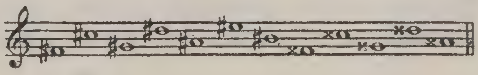


B



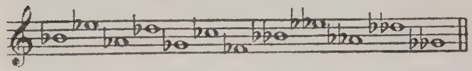
In example A the major 3d D-F♯ is changed into the dim. 4th D-G♭, the former being, here, part of the key of D major, the latter, part of E♭ minor. In example B the minor 7th C-B♭ is changed to the aug. 6th C-A♯, making possible the modulation from the key of F major to the key of E major. Ambiguous enharmonic has only developed since the beginning of the romantic period in music—about 100 years ago; previous to that time it is only met with sporadically—but modern music depends on it for some of the most subtle effects, creating an atmosphere of vagueness, which is perhaps its principal characteristic. The following table shows the enharmonic of all intervals. It must be noted that perfect intervals have no ambiguous enharmonic—another good reason why the term "perfect" is justified.

(Perfect prime = perfect prime).
Aug. “ = min. second (or vice versa)
Maj. 2d = dim. 3d “
Aug. 2d = min. 3d “
Maj. 3d = dim. 4th “
(Perf. 4th = perf. 4th)
Aug. 4th = dim. 5th “
(Perf. 5th = perf. 5th)
Aug. 5th = min. 6th “
Maj. 6th = dim. 7th “
Aug. 6th = min. 7th “
Maj. 7th = dim. 8th “
(Perf. 8th = perf. 8th)

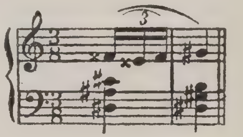
If, as stated previously, white keys have three names, and black keys two—it follows that there are possible in music seven sharps and five double sharps 

The succeeding double sharps, like E double sharp and B double sharp, become impractical because they revert to F♯ and C♯ respectively.

There are further recognized seven flats and five double flats.



C double flat and F double flat are impractical because they revert to B flat and E flat respectively. This is further proven in the succeeding chapter, devoted to scales. (I have seen the use of E double sharp in one of Mahler's scores and there may be others. He wrote but the E double sharp has no significance, except as an embellishment of the tone of F double sharp.

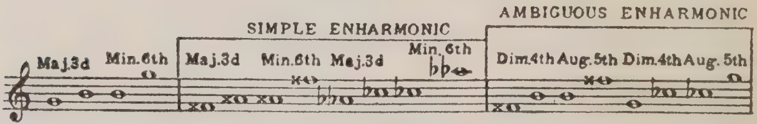


Middelschulte in his Canons (Vater Unser) for organ even indulges in a B triple flat—but on closer analysis one will discover that A flat would have answered his purpose much better and would have been more correct.)

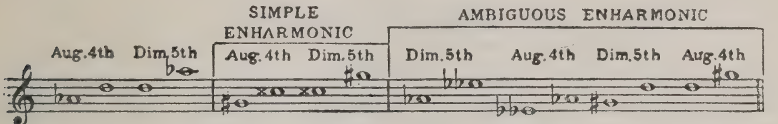
Intervals composed of white keys may be read in five different ways—those composed of one white and one black key in four ways and those composed of two black keys in only three different ways.

Lesson: Name and invert the following intervals, also give the enharmonic equivalents with inversions:
B-D, F-A, G♯-E, G-A♭, G♯-B♯, D-E, F-B, Cx-F♯, A-E♭, E♭-F♯, C-B♭♭, F♭-E♭, Gx-A♯, E♭-B♭, A♭-F♭, F-B♭♭, D-F, A♯-Fx, D-A, G-C♯, C♯-E♭, D-C, A-B♯, D♯-F♯, C-B♭ (to be amplified at the teacher's discretion).

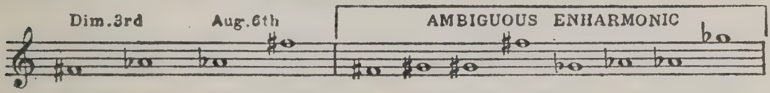
The following examples show how the work should be done.



The interval is composed of two white keys, therefore the five readings are: G-B, Fx-Ax, A♭♭-C♭, Fx-B, G-C♭.


SIMPLE ENHARMONIC
AMBIGUOUS ENHARMONIC
Aug.4th
Dim.5th
Aug.4th
Dim.5th
Dim.5th
Aug.4th
Dim.5th
Aug.4th

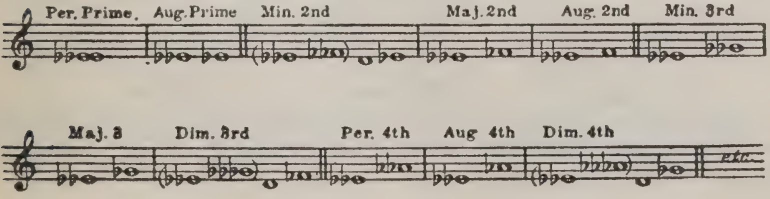
This interval is composed of one black and one white key—therefore, only four readings are possible—A♭-D, G♯-Cx, A♭-E♭♭, G♯-D.


Dim.3rd
Aug.6th
AMBIGUOUS ENHARMONIC

In the last example, no simple enharmonic is practical, because F sharp cannot be read as E double sharp, nor can A flat be read as B triple flat.

The intervals given in this lesson include a few perfect ones and the student must remember that these have no ambiguous enharmonic and are, therefore, the most restricted. If all the lessons given for the study of intervals are perfectly understood, the student will have gained a sufficiently broad basis to enable him to comprehend everything which follows in succeeding chapters. The demands made on intellect may be great, but I wish to reiterate that the comprehension of the material contained in this book presupposes a certain amount of preparatory work—it is not written for a musical kindergarten.

Additional lesson. Ambitious students may try to write intervals from the following tones; these will necessitate some enharmonic writings in cases where impractical notations result. Tones from which these intervals may be written: G♭, A♯, E♯, C♭, Fx, B♭♭; upward and downward.


Per. Prime.
Aug. Prime
Min. 2nd
Maj. 2nd
Aug. 2nd
Min. 3rd
Maj. 3
Dim. 3rd
Per. 4th
Aug 4th
Dim. 4th
etc.

CHAPTER III

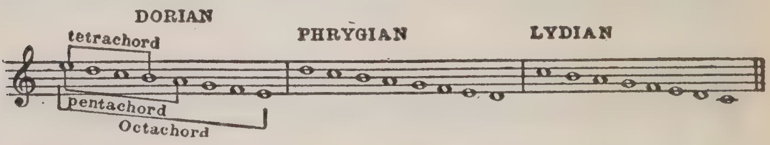
SCALES

A scale is, essentially, **a melody,** which through usage, has become the foundation of all melodic and harmonic progression in modern music.

Our present scale system, major and minor, has come into use with the fuller understanding of harmonic resources. The first definite conception of this system is credited to Zarlino (1517-1590), but it took two centuries more before it was generally accepted by musicians. Rameau (1683-1764), must be regarded as the real founder of modern theory, based on the dual system of the major and minor tonalities. Previous to the inception of the major and minor ideas and also during their development, scale systems existed which were altogether the result of melodic principles, to the almost complete exclusion of harmonic thought.

The oldest known system was of Greek origin. The Grecians, the greatest art-loving people of antiquity, were possessed of highly developed musicianship, which found expression through a well diversified scale system, adopted as the foundation of their music. They named their scales after the different provinces comprised in the Grecian territory: Dorian, Lydian, Phrygian, Ionian, etc., a custom which they also applied to architectural designs, a fact familiar to every educated person the world over.

The Grecian scales were constructed on the principle of downward progression. (This can only be explained on the basis of gravity; a point of repose, or the point of gravity, must be lower than that material which seeks it. Consequently an ascending motion is less natural than a descending one.) The principal scales were (in our modern notation):

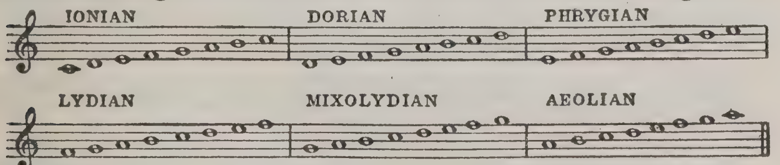


These were divided into different tetrachords (Syllaba), pentachords (Dorian), octachords (Diapason).

(The term "chord" means string—in Italian "corda", from which the English term "cord" is also a derivation. All of which proves that the principal instruments used by the Greeks were stringed instruments which were tuned according to certain scales or sections of scales. As a matter of fact the scale system of the Greeks was most complicated and their theorists were not only highly educated scientists but also practical musicians, which the preserved writings of such men as Aristotle, Euclid and Plutarch prove beyond doubt.)

The church modes—ecclesiastical scales—formed the basis of the music during the middle ages and their influence is noticeable even in the music of the 19th century. (Beethoven's quartette op. 125 has a movement in the Lydian mode, a scale on F but with B♮ instead of B♭; it is inscribed: "A prayer of thanksgiving of a convalescent". Tschaikowsky in his Overture "1812" makes use of similar effects, portraying services in the Moscow churches, previous to Napoleon's arrival. As a matter of fact, many of the folk melodies—of Bohemia and Norway in particular—prove conclusively that they are based on church-modes. Suggestions of these effects can be found in the works of composers of almost every nationality.)

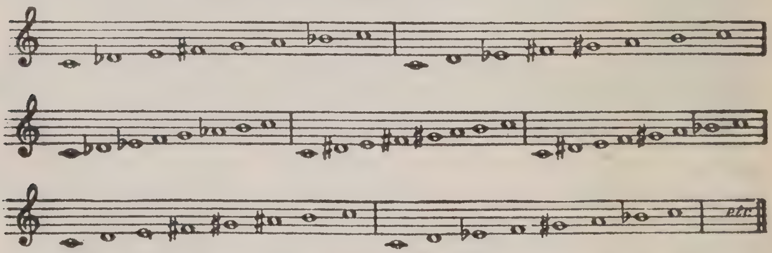
The ecclesiastical scales are perversions of the Grecian system. Incorrect translations of the writings of Grecian authors, constant modifications of traditions, led to the misapplication of Grecian nomenclature. Zarlino, for instance, was responsible for the naming of the ecclesiastical scales in the following order:



A most interesting study is the evolution of the church-modes on the basis of the Gregorian chants. There can be hardly any doubt that the ecclesiastical scales were the result of an attempt to classify the Gregorian collection of melodies; in other words the scales were the result of existing melodies, which is the exact opposite of our modern conception, our present day melody being the result of the adopted scales.

Whether Grecian scales were also the result of already existing melodies cannot be verified, because there are only a few examples of Grecian music preserved. But not so with the music contained in the Gregorian collection. This collection probably embodies the musical culture of innumerable peoples. Whenever one nation conquered another, it not only appropriated the territory of the foe but also amalgamated its art-life with its own. It is therefore no mere conjecture that the Gregorian collection contains the residue of the Egyptian, Hebrew, Persian, Phoenician, Grecian and Roman culture, expressed in the musical life of these nations. But the songs of the barbarians living to the north of Italy must also have been incorporated. The Christian church has always tried to get nearer to the heart of the peoples whom it wanted to convert by the practice of coupling religious words with the melodies of these peoples; a practice indulged in even to-day by religious associations such as the Salvation Army, Volunteers of America and others.

The limitations which the use of the present scale system has placed on the development of the composer's imagination have become most irksome and the attempts of Debussy and Scriabine to create new "measurements" simply prove this statement. The well-organized melodic idea, as found in our major and minor scales, has just about outlived its usefulness. A scale can be called the "yard measure" of musical thought and there is no reason why a composer should not create his own special melodic yard measure; in fact, he might vary this "measure" with every composition. Even if we only consider the existence of twelve half-tones in an octave, an infinite variety of seven-step scales become possible.



These examples do not even take into consideration the possibility of chromatic half steps, skips of thirds, etc., and further: these scales may have for their starting-point any one of the twelve half steps or, in other words, they may be transposed just like our major and minor scales. The great variety these different adjustments afford will readily be comprehended, not only from the melodic viewpoint but also in regard to harmonic treatment.

Could these suggestions become of practical use to the composers of future generations? I wonder! The human mind is governed too much by conventionalities; we imitate that which has come to us as a tradition and only the genius can break the laws of conventionality; but never until he has proven that he fully understands these laws. In other words, progress can only be achieved on the basis of existing conditions; and to negate these would simply be a reversion to that chaos of which the first chapter of Genesis speaks.

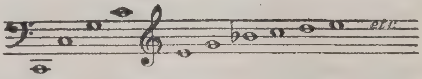
Existing conditions therefore oblige me to speak more fully about our major and minor scales, particularly as to the reasons why they have dominated our past and present musical thought.

Harmonic consciousness began to develop rapidly with the close of the 16th century, after Zarlino had pointed out the possibilities of the dual scale system. The feeling for dominant, and to a certain extent for tonic, has apparently always existed, because the comprehension of the harmonic character of the Overtone series has been understood from time immemorial.

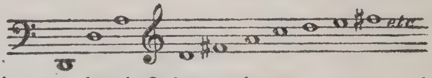
OVERTONES

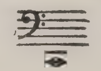
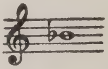
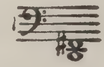
Overtones result from nodes or dead points, also called segments, in the vibrations of any tone-producing body. Tone-producing bodies are strings, wood, metal, glass, etc. The vibration of these bodies is caused by air pressure or by striking them with hammer-shaped contrivances of various kinds.

These vibrations produce what is heard as a fundamental tone, yet this fundamental is really a conglomeration of a true fundamental and a great number of tones which sound simultaneously with it, altho only faintly. These overtones give the fundamental its comparative richness, sonority, and even its color. Bells produce overtones more prominently than any other tone-producing body; hence the less distinctive pitch of their fundamentals. The fundamentals of the tones of the organ produce the least audible overtones, and in order to gain richness of sound, the overtones are emphasized by artificial means, such as stops of the fifth, twelfth, and others. A good piano produces audible overtones on any of the lower strings and it takes very little practice to recognize the "series" readily. If the low C is struck the following series of overtones is developed:

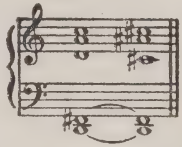


It is not unusual for one string to produce a more audible fifth than third; in that case other fundamentals must be experimented with. If low D is struck the F sharp may stand out more prominently than the E as third of C. Overtones on D are:



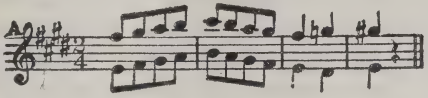
If the student's ear is deficient the presence of the overtones may be demonstrated in this way: Strike  After it has sounded for a few seconds strike  The B♭ in the overtone series is a few vibrations lower than the B♭ just struck, causing one to perceive the so-called "beats", the result of conflicting tone waves. Sensitive ears are frequently annoyed by the presence of overtones and the sound of even a "well tempered" or "well tuned" piano or orchestra becomes, at times, irritating. Just listen to the following sound: 

The conflicting overtones of D and F♯ actually cause the following simultaneous sounds:

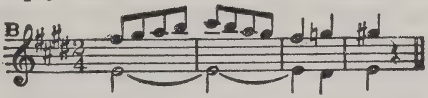


Some of our so-called modern composers gain their hideous effects by an emphasis of conflicting overtones, but this can only be likened to the sensation of rubbing salt in an open sore.

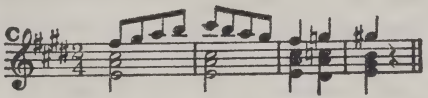
These examples could be supplemented by hundreds of others furnishing most convincing proof that music can really only be heard and understood from a melodic standpoint. The intervals of so-called harmonies are nothing but links torn out of a chain of melody. This, of course, is the principle of counterpoint. Too much emphasis on so-called harmonic combinations has brought about more or less musical degeneracy, which can only be cured through a better understanding of melodic principles. There is, for instance, nothing objectionable in the following examples, provided they are understood from a melodic viewpoint:

A


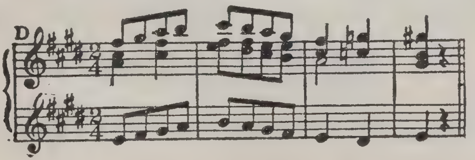
The idea is simply this:

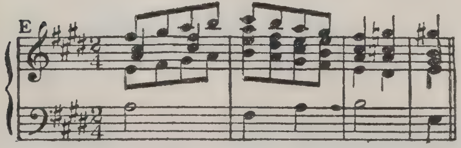
B


or in a richer harmonization:

C


Example A is, therefore, to be explained in the following way: The first three measures in the upper part form a scale embellishment of the tone of F♯, resolving in the fourth measure to G♯, while the lower part shows three measures of scale embellishments of the suspension tone E, resolving at the end of measure 3 into D♯, followed in turn by the tonic of E major. If the listener is unable to hear anything but the succession of seconds, or, more strictly speaking, of ninths, the effect is far from pleasant; but if listened to with the thought in mind of two independent melodies the effect is perfectly satisfactory.

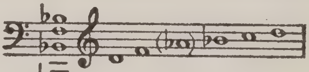
D


E


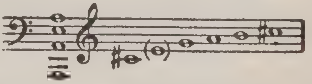
Examples D and E are other possible settings of the same idea.

Overtones are elemental; they exist as part of the whole universe, yet, while their existence cannot be explained, their influence on the development of music, as an art, is easily proven. On stringed instruments, the overtones are called harmonics. If at all feasible, the teacher should demonstrate their presence on a violin or a 'cello. The student may be asked to point out, with a pencil, the middle of a string. If he gauges it correctly, the octave will sound; then if asked to point out ⅓ of the string the fifth, etc. The violinist will thus learn the reason why the same harmonics can be produced on either end of the string and at the same time will comprehend the nature of so-called artificial harmonics. The knowledge of these harmonics also explains one of the greatest difficulties which confront the player of a stringed instrument, namely: if he plays a scale through two octaves on one string, the space for the second octave is only one-half that of the first, necessitating much closer fingering.

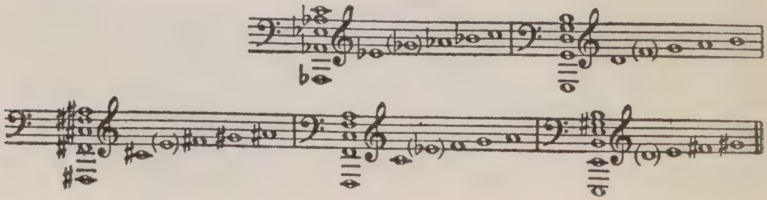
It is also necessary for the student to realize that every wind instrument in the modern orchestra is built on the overtone principle. This is most easily understood if, for instance, the technic of the trombone is considered. If the slide on the so-called tenor trombone is closed, the player can produce the following series of overtones (these are called "natural" tones in the language of the players and are known particularly to the horn players as "nature tones"—"Natur Töne").

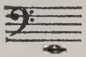
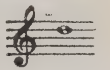


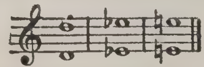
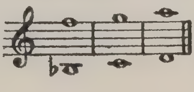
If the slide is then pulled out a slight distance, the series on A can be played (this is known to the player as the second position);



and so chromatically downward to E. The tones in parenthesis are slightly too low, as mentioned before.

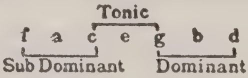


A comparison of the seven positions shows that the player has all the tones of the chromatic scale from  to  at his disposal (some of them several times). (The lowest fundamentals, also called pedal tones, are seldom called for). This same technical principle applies to the trumpets, cornets, French-horns, etc., but these instruments are supplied with valves, which act like the "slides" on the trombones. If no valve is pressed down, the instrument produces the series of its natural pitch; this pitch varies according to the length of tubing, hence the expressions: Horn in F or E or E♭ or B♭, etc.; or Trumpet in B♭ or A or C. (The fullest understanding of these conditions can only come with detailed study, which is out of place in this book.) If the second valve is pressed, an additional part of tubing is opened and the series one-half tone below the natural pitch results. The first valve lowers the pitch a whole tone; the third, a tone and a half. The combinations possible on these instruments are therefore 2d; 1st; 3d; 1st and 2d; 2d and 3d; 1st and 3d; and 1st, 2d and 3d valves; giving the players again the choice of seven series of overtones (1st and 2d combined equaling 3d).

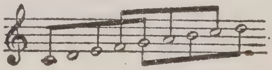
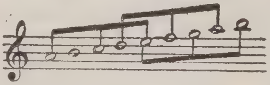
How then does the player know which tone will come forth, if he blows into his instrument? He has to **think** every pitch he wishes to produce, but such thought, like all technic, becomes subconscious with constant practice. The understanding of the foregoing should give, particularly to the pianists, a greater respect for the musical equipment necessary to play those instruments mentioned above. While their usefulness is limited, compared to the "all comprehending" piano, yet the players of these instruments develop, as a rule, a much better "ear" than the pianists, because they have, first of all, to "learn to listen". Even the build and technic of the "woodwinds" is governed to a certain extent, by the overtones; so for instance the flutes, oboes and bassoons use the same "fingering" for notes an octave apart like  The process of playing the octave is known as overblowing. The technic of the clarinet differs somewhat from the other woodwinds; it is based on overblowing into the twelfth, like  etc.

In the foregoing paragraphs I have tried to show the student from a most practical viewpoint the importance of the knowledge of the principle of overtones and the following lines will explain their influence on the development of harmony. An investigation of the overtone series will show that the combined sounds produce the "dominant" effect. The term "dominant" has been chosen very aptly because it is, in truth, the "ruler" of the whole world of music. Yet this dominant effect is considered a discordant combination. (The term "con-cord" is best explained as alluding to a string sounding in sympathy with another, while a "dis-cord" is a string which is unsympathetic to another.) Discords necessitate resolution into a concord; this necessity is based on human desire. It is a fact that the overtones on G desire to resolve into C. The perplexing truth, however, is that the moment this is accomplished, the tone C becomes the fundamental of its own series, creating the desire to move into F and so on, ad infinitum. Yes, desire for infinite progression is the inherent character of these overtones; and is their final resolution, perhaps, the Creator of the universe?

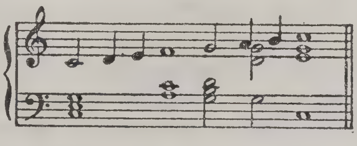
The human mind has drawn human limits; it considers the tonic of a key the center, with its dominant a fifth above and its subdominant a fifth below. Triads formed on these three "key principles" show the following picture:

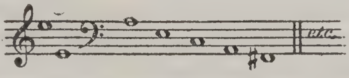


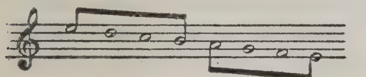
The appreciation of this key (or tonality) principle, led directly to the adoption of the dual scale system.

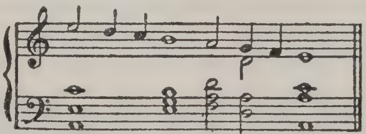
Of all the ecclesiastical scales, only the Ionian and Aeolian scales produced triads of identical character on their tonic, dominant and subdominant. In the Ionian scale these triads were major chords  and in the Aeolian scale, minor chords: 

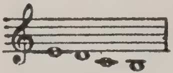
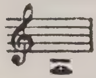
All the other, then used, scales gave mixtures of major and minor and diminished triads. The Ionian or Major scale also had the advantage of being composed of two equal sections called "tetrachords", the first section beginning on the tonic and ending on the subdominant, the second section beginning on the dominant and ending on the tonic, each section consisting of two whole and one half steps. Furthermore, this arrangement emphasized the feeling of tonality, showing clearly the importance of relationship of tonic to subdominant and dominant to tonic.



The minor scale would show this same regularity, if it were really considered the reverse of major. The idea of considering the minor scale as the inversion of the major is not at all new. Hauptmann pointed this out repeatedly in his writings and Hugo Riemann, who was perhaps the best informed musical savant of our times, based all of his theoretical works on this idea. Their theory is built on the assumption of the existence of Undertones. This has never been proven scientifically, but even the Grecian theorists of antiquity assumed their existence, as proven by a scale system which considered the scale, first of all, as a descending succession of tones. When we investigate the construction of their Dorian scale we find it to be absolutely the inversion of our present major scale, composed of two tetrachords, each consisting of two whole steps and one half step. It is quite simple to deduce from this fact a theory of undertones; vide:  the F♯ corresponding to the B♭ of the overtone series. Just as the overtones produce the effect of major, so do the undertones produce the effect of minor. Even the harmonization of this scale shows the same logic as in major, but of course also reversed.

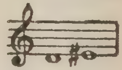
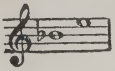


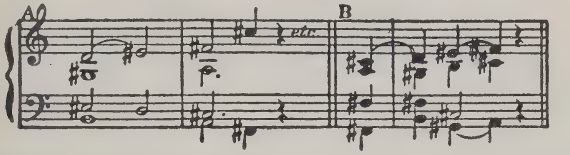


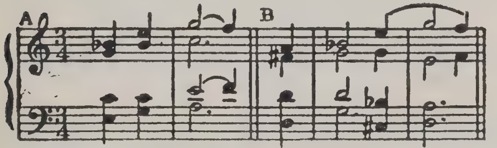
One of the weak points of the theory of undertones is seen in the fact that even the Grecians could not feel E as a tone of finality; they added another tetrachord starting on E  and used as the tone of finality  known as Proslambanomenos.

I have mentioned the foregoing facts concerning undertones merely to prove that the scientific basis of scale formation, while it does exist to some extent, has always been too limited to be of great value to the ever increasing expansion of imagination. Music is not a Science; it is an Art and, as such, is intensely human, adapting its expression to the demands of the subtle spiritual changes of each successive generation.

The student must know that the so-called relative minor scale is founded on the 6th degree of a major scale. The minor scale which uses the same tones as the major scale is called the "natural minor scale". If the 7th degree of the scale is raised, it is called the "harmonic minor scale".

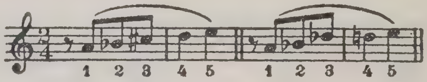
The raising of the seventh degree grew out of the consciousness of the overtones. The overtones (dominant in character) based on a major triad, nature's own product, simply demanded its presence even in the minor tonality, necessitating the raising of the seventh tone. As this was done for harmonic reasons, the scale thus modified was called the harmonic minor scale. This scale is, however, no longer purely minor like the natural scale, but a mixture of minor and major; in other words, it is an altered scale. The interval of the augmented second between the sixth and seventh degrees, which resulted from this alteration, is, to say the least, awkward. The pianist hardly ever fully realizes this condition, as he produces tones mechanically. Not so with singers, players of stringed instruments, etc.; they frequently find it difficult to conceive in their minds the augmented second and likewise the augmented fourth. The reason for this lies in the melodic tendencies of the tones forming these intervals. Take, for instance, the interval  The tendency of the D is downward to C♯ and that of E♯ upward to F♯. These tones are, as it were, pulling at cross purposes. This same condition exists when the augmented fourth is considered:  B♭ has downward and E upward tendencies. An expansion is more difficult to conceive than a contraction, as the latter converges upon a central point of repose, hence these intervals, inverted, afford no difficulty of conception. Of course, this does not exclude the augmented seconds and fourths from melodic use, but on analysis it will generally be found that either they are units of one harmony or one of the tones is the end of one motive and the other the beginning of another.



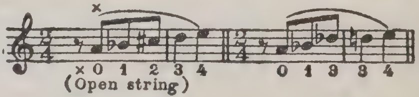


In both examples marked **A** is shown the use of the aug. 2d and aug. 4th in the same harmony, and in those marked **B**, D does not really move to E♯ because it is connected to the preceding chord by the demand of the motive, neither does B♭, in the second example, really go to E. Yet, even from the standpoint of melodic progression, these intervals must always be treated with discriminating care. In the minor scale the interval of the aug. 2d is eliminated by raising the 6th step also, and as this is done for melodic reasons, the scale is named "melodic minor scale". The arbitrariness of scale construction is further shown by the fact that both the 7th and 6th steps are lowered again if the descending melodic scale is employed. Nevertheless, of the two forms, the melodic minor scale should have the preference over the harmonic form. Under no circumstances must the harmonic minor scale be taught by piano teachers to the exclusion of the melodic form. It is simply a sign of limited capacity or arrested development on the part of students if they show a preference for the harmonic form, on the ground that it "sounds so much prettier". The maudlin, saccharine sentimentality of that aug. 2d has simply cast its tawdry charm over their easily influenced musical sensibilities.

I have often wondered why the average piano instructor still teaches the harmonic in preference to the melodic form, Even from a pianistic technical viewpoint there can be no advantage in this, because the real size of the aug. 2d on the piano is always that of a minor third, necessitating an actual skip. A pianist will use the same fingering whether the following motive is written with C♯ or D♭.

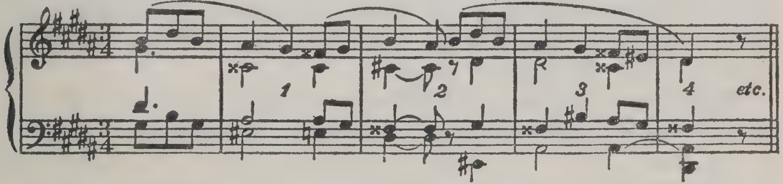


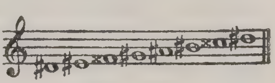
Not so with the player of a stringed instrument; he generates the C♯ from the same finger with which he plays C and the D♭, from the finger with which he plays D.



The principle of scale progression has, from time immemorial, always been that of successive major or minor seconds. Of course we know that all text books on harmony, written since the middle of the 18th century, have made much of the now antiquated fact that the primary and secondary chords are so constructed that the harmonic minor scale can be extracted from these harmonies, and it must have been this influence which induced the pianists to accept this harmonic form of the scale for their piano practice. Even the compositions of the classic and the romantic school were largely influenced by such teachings, while compositions previous to those times, notably those by Bach and Handel show no discrimination in favor of the harmonic form. Neither do the modern writers, since Wagner and Brahms, care a rap about any one particular form of any scale, except as it suits their creative needs.

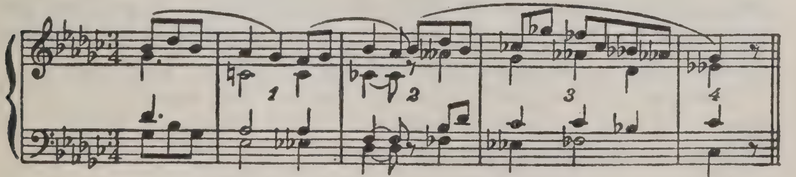
Major and minor scales are of importance to us because, since Bach's time, they represent definite tonalities. It must be understood that "signature" usually expresses the key in which a composition is written; it represents a "key center", around which all other keys group themselves in closer or further relationship. It has become customary to accept as signature keys those which indicate from none to seven sharps and from none to seven flats; yet these represent by no means all possible keys. Inasmuch as we meet with double sharps and double flats in our musical notation, it stands to reason that these signs represent intervals belonging to other definite keys than those represented by signatures, and the student must learn to know and recognize these just as readily as those with single sharps and single flats. In a general way it may be said that double sharps become necessary when the composer modulates toward the major dominant side of a minor key with more than three signature-sharps, as the following example proves.



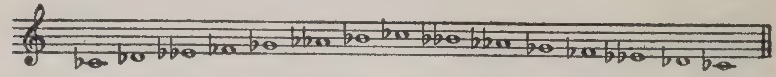
The analysis of this example shows that it is written in the key of G♯ minor, modulating at the end of the second measure into D♯ major—the key represented by the major dominant triad of G♯ minor. In order to express the D♯ major key, the following scale tones are necessary: 

The student will find that every one of these tones is present in measure 3.

Scales with double flats become necessary when the composer modulates toward the minor subdominant key of a major key with more than three signature-flats.



This example begins in the signature key of G♭ major, modulating at the end of the second measure into C♭ minor—the key represented by the minor subdominant triad. In order to express this C♭ minor key, the following mixture of the harmonic and melodic forms is necessary:



All these tones are embodied in the third measure.

Modulations into the major dominant key of a minor tonality are perhaps more frequent than those into the minor subdominant key of a major tonality, because in the former the major dominant leads back naturally into the tonic, while in the latter the minor subdominant is practically devoid of such tendency. When the work of "key analysis" is reached, I shall call the student's attention to similar examples in the work of the masters. But even these two little musical thoughts show sufficiently that the student must become acquainted with every possible major and minor scale.

Before entering upon the practical scale work I wish to state in conclusion that so-called key signature is frequently a matter of convenience. The sharps or flats placed at the beginning of the staff, while usually indicating a definite tonality, need not necessarily be considered in that light. A modern composer frequently chooses for signature a number of sharps or flats which will do away with these signs before the notes proper. In fact, when he expects to modulate a great deal, signature is often omitted altogether. Take for example the development portion of the first movement of Beethoven's Sonata Appassionata Op. 57. It begins in G♯ minor modulating to E major, etc., yet no signature is used and when, after some measures, the original signature of four flats is reinstalled, he is really in D♭ major, etc. Bach writes the first Sonata for Violin alone with a signature of one flat, yet everyone knows that the key is G minor. The student must realize that no composition of serious pretensions is ever written in the key of the signature throughout; the key which the signature indicates is merely a center.

Lesson: All major and minor scales are merely transpositions of C major and A minor. The scales with sharps are founded on a circle of perfect fifths.

Major Scales are to be formed on: C, G, D, A, E, B, F♯, C♯, G♯, D♯, A♯, E♯, B♯.

The relative minor scales on: A, E, B, F♯, C♯, G♯, D♯, A♯, E♯, B♯ (Fx, Cx, Gx).

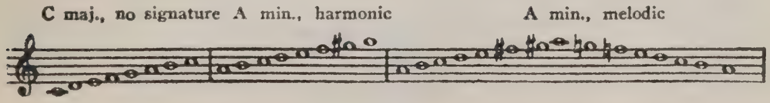
The last three major scales have no relative minor scales, except when the natural minor scale is used, because the raising of the sixth and, particularly, the seventh steps of these minor scales would necessitate the use of impractical double sharps, such as I have mentioned in the chapter on intervals (in the above cases E double sharp in F double sharp minor, B double sharp in C double sharp minor and F triple sharp in G double sharp minor).

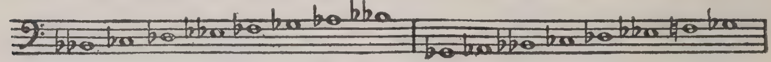
The scales with flats are founded on a circle of perfect fourths, or descending perfect fifths; beginning again with C major and A minor, the scales will come in the following order: Major scales: C, F, B♭, E♭, A♭, D♭, G♭, C♭, F♭, B♭♭, E♭♭, A♭♭, D♭♭. Minor scales: A, D, G, C, F, B♭, E♭, A♭, D♭, G♭, C♭, F♭, B♭♭.

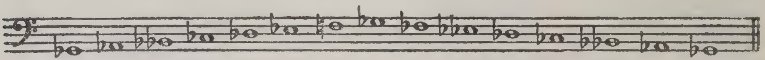
In the "flats" all the minor scales are possible because, in raising the sixth and seventh tones, even flats which belong to the signature are eliminated.

If the student takes into consideration that all scales are a transposition of C major and A minor he will readily come to the conclusion that if C major has no sharps nor flats, C♯ major must use seven sharps and C♭ major seven flats, in order to preserve the proportion of intervals as found in C major. On the same principle, D major with sharps before F and C necessitates the use of five sharps and two double sharps if the scale is begun on D♯; the double sharps being used before F and C, or—if E♭ major uses flats before B, E and A—E♭♭ major must use four single flats and three double flats for its construction, the latter becoming necessary for B, E and A.

Lesson: The student must write every major and minor scale in the above order; the minor scales in harmonic and melodic forms. It is inadvisable to use signatures at the beginning; the necessary signs are to be placed before the notes themselves. For example:




Bbb maj., 5 flats and 2 double flats Gb min., harmonic


Gb min., melodic

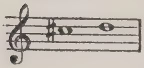
After they are written and understood, the student must be asked to play on the piano any scale called for, naming each tone as he plays it.

The next **Lesson** is designed to co-ordinate the intervals and scales.

Perfect primes are not parts of the scale, because each step can be represented only once; neither does the augmented prime occur in the so-called diatonic scale: it is a chromatic interval and will be explained later on, when the formation of the chromatic scale is considered.

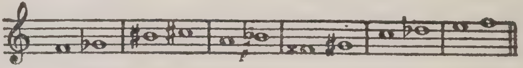
A given minor second may occur in 5 different scales:

Min. 2d



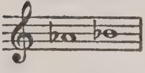
D maj. sig 2♯, Scale steps 7-8
D min. sig. 1♭, Scale steps 7-8
B min. sig. 2♯, Scale steps 2-3
A maj. sig. 3♯, Scale steps 3-4
F♯ min. sig. 3♯, Scale steps 5-6

Find the 5 scales which contain:



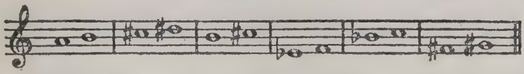
A major second is found in 12 different scales:

Maj. 2d

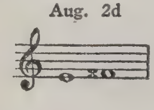


E♭ maj. sig. 3♭, 4-5
E♭ min. sig. 6♭, 4-5
C min. sig. 3♭, Mel. desc. 6-7
A♭ maj. sig. 4♭, 1-2
A♭ min. sig. 7♭, 1-2
F min. sig. 4♭, 3-4
D♭ maj. sig 5♭, 5-6
D♭ min. sig. 6♭, and 1♭♭, Mel. asc. 5-6
B♭ min. sig. 5♭, Mel. desc. 7-8
G♭ maj. sig. 6♭, 2-3
C♭ maj. sig. 7♭, 6-7
C♭ min. 4♭ and 3♭♭, Mel. asc. 6-7

Find the twelve scales which contain:

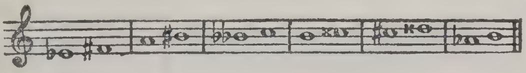


An augmented second occurs only in the harmonic form of a minor scale, from the sixth to the seventh steps.

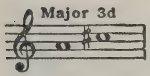


G♯ min. sig. 5♯,
Scale st. 6-7

Find the scales containing:



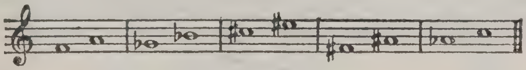
A major third is found in eight different scales. It must be remembered that the root of the scale may lie between the two given tones,—neither does it matter whether the tones are used ascending or descending; the question is simply—do such and such tones occur in such and such scales?



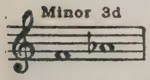
A maj. 3♯, 1-3	F♯ min. 3♯, 3-5	E maj. 4♯, 4-6	E min. 1♯, Mel. asc. 4-6
C♯ min. 4♯, 6-8	D maj. 2♯, 5-7	D min. 1♭, 5-7	B min. 2♯, Mel. desc. 7-2

In B minor the root of the scale lies within the interval.

Find the scales which contain:



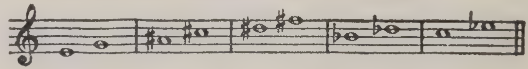
A minor third is found in ten different scales:



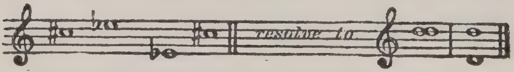
E♭ maj. 3♭, 2-4	C min. 3♭, 4-6	E♭ min. 6♭, 2-4	A♭ maj. 4♭, 6-8	
A♭ min. 7♭, Mel. asc. 6-8	F min. 4♭, 1-3	D♭ maj. 5♭, 3-5	B♭ min. 5♭, Mel. desc. 5-7	G♭ maj. 6♭, 7-2

G♭ min. 5♭
and 2♭♭, 7-2

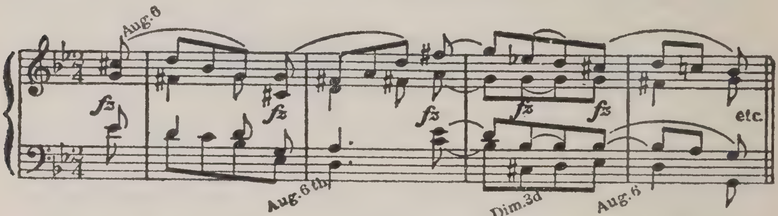
Find the scales which contain:



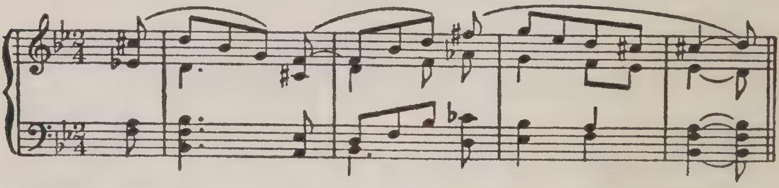
The diminished third and its inversion, the augmented sixth, are considered altered intervals. They are found most frequently in the so-called augmented 6th chords and resolve usually into the dominant of a key. For instance:



but this is usually the dominant of either G minor or G major.

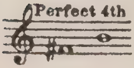


In this example E♭ and C♯ or C♯ and E♭ resolve each time to D, which is the dominant of G minor. It will be most profitable for the student to look up some similar examples in various compositions, in order to recognize these intervals readily, altho not all intervals written as aug. 6ths or dim. 3ds conform to this rule: for instance, in the following example, the C♯ is the chromatically raised 5th of the dominant seventh chord in B♭ major:



Good examples are to be found in the second part of the first movement of Beethoven's first Sonata (F min.), but almost every composition, since Beethoven's time, contains these intervals.

A perfect fourth is found in thirteen different scales.

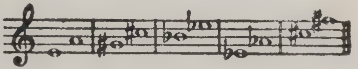


G maj. 1♯,	E min. 1♯,	D maj. 2♯,	B min. 2♯,
7-3	2-5	3-6	5-8

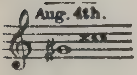
A maj. 3♯, 6-2
F♯ min. 3♯, 1-4
A min. no sig., Mel. asc. 6-2
E maj. 4♯, 2-5
C♯ min. 4♯, Mel. desc. 4-7

B maj. 5♯, 5-8
G♯ min. 5♯, Mel. desc. 7-3
F♯ maj. 6♯, 1-4
D♯ min. 6♯, 3-6

Find the scales which contain:

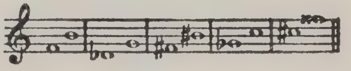


The augmented fourth is found in four different scales.

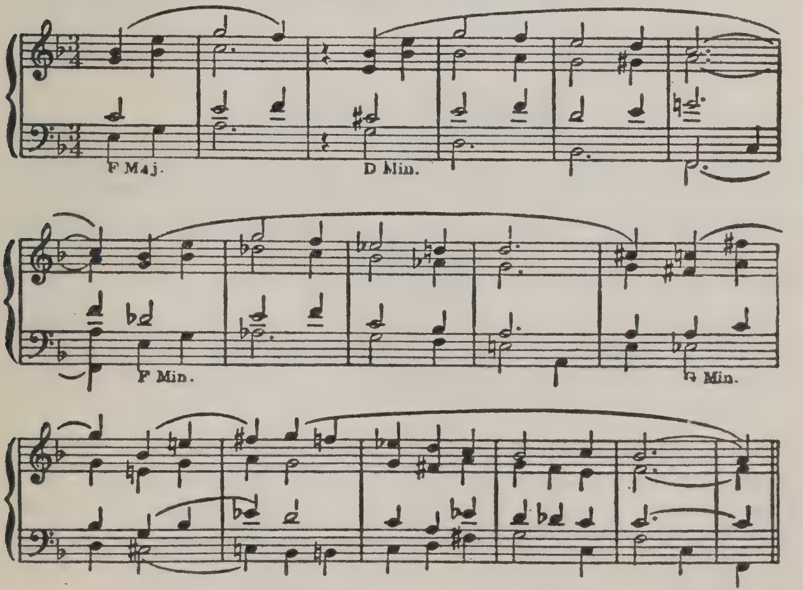


D♯ maj. 5♯, and 2x, 4-7
D♯ min. 6♯, 4-7
E♯ min. 6♯ and 1x, Mel. asc. 3-6
B♯ min. 5♯ and 2x, 6-2

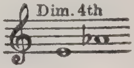
Find the scales containing:



The following example shows the interval B♭-E in F maj., D min., F min. and G min.

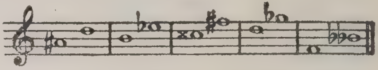


A diminished fourth is found only in one minor scale, from the seventh to the third steps.



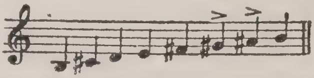
F min. 4♭,
7-3

Find the scales containing:

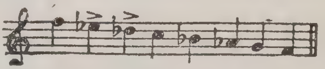


It is unnecessary to continue these exercises into the fifths, sixths and sevenths, as the results are the same as with the fourths, thirds, and seconds, respectively.

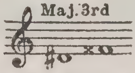
The student should be asked to play a number of different scales, emphasizing any interval called for. The scales should be played either ascending or descending, as the case may be, and if the root of the scale lies between the two tones, the scale must be continued into the next octave either above or below. Illustration: Show that the tones G♯ and A♯ belong to B minor. The student then plays the B minor scale in melodic form, accenting the tones called for:



Or, demonstrate that E♭ and D♭ belong to F minor:



The resourceful teacher will be able to construct a number of useful exercises out of the foregoing material; he may choose some remote intervals which will necessitate enharmonic changes, for instance:

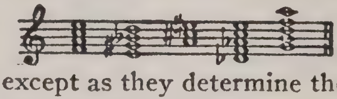


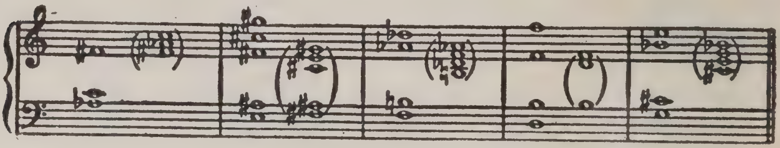
It occurs, among other scales, also in F double sharp minor. This scale would call for an Ex, an impractical tone, but the student then would have to make use of enharmonic, calling the tone E♭-G, and the scale G minor, etc.

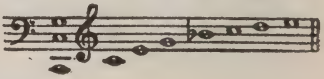
Those who wish to know more about the subject of overtones are advised to study Pole's "Philosophy of Music", and also articles in Riemann's Dictionary. The subject of scales, their history and development, has as yet not found expression in a work devoted entirely to this matter, and I doubt if it will ever be possible to piece the available material together into an organic whole. There are too many gaps which, at present, cannot be bridged. Carl Grimm, one of the most cultured musicians in America, living in Cincinnati, has collected a great amount of material during twenty years of research, the result of which he has published in a most remarkable book called "Scales" (Willis & Company). I advise every student and thinking musician to become acquainted with this work; he will then even more readily concede my assertion that a scale is only a "measurement", to be altered according to the artistic needs of the composers of any times, past, present or future.

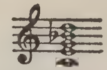
CHAPTER IV

TRIADS

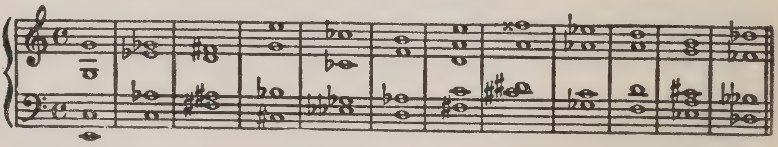
Chords are formed by building a number of thirds on any given tone.  The size of these thirds is irrelevant, except as they determine the character of the chord. A student wishing to find the root of any combination of tones, must reduce it to its component thirds.



The reason that chords are constructed of thirds is again to be found in the overtone series: 

If this is contracted into thirds the result is: 

Lesson: Form the successions of thirds of which the following combinations of tones are constructed.



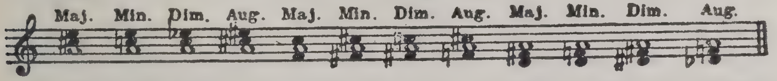
This lesson must be augmented by choosing so-called arpeggio passages from any composition at hand. (The first Prelude of Bach's "Well-tempered Clavichord" furnishes an appropriate example. Needless to say that this work cannot be done without the teacher's guidance; many of these arpeggios contain "melodic tones" which obstruct the visualization of the successive thirds.)

A triad is composed of three tones, forming two thirds. For the present it is sufficient to realize that the combinations are called either major or minor, diminished or augmented triads.

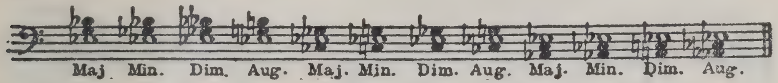
A major triad is composed of root, maj. 3d and perfect 5th.
A minor " " " " " min. 3d " " 5th.
A diminished " " " " " " 3d " dim. 5th.
An augmented " " " " " maj. 3d " aug. 5th.

A given tone may be either the root or the third or the fifth of either a major, minor, diminished or augmented triad; it may therefore be a part of twelve different triads.

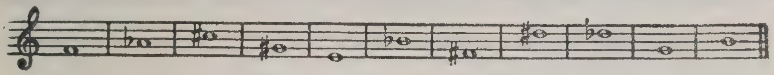
If the tone A is taken for an example it may be part of the following twelve triads:


Maj.
Min.
Dim.
Aug.
Maj.
Min.
Dim.
Aug.
Maj.
Min.
Dim.
Aug.

If E♭ is the given tone it will be part of the following twelve triads:

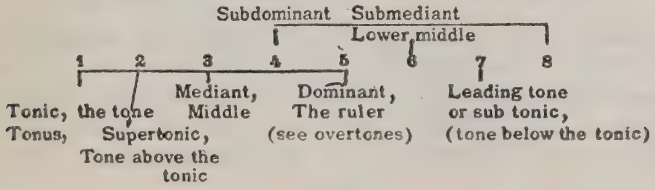

Maj
Min.
Dim.
Aug.
Maj.
Min.
Dim.
Aug.
Maj.
Min.
Dim.
Aug.

Lesson: Write the triads which contain the following tones as either root, third or fifth. Treble or Bass clef should be used.



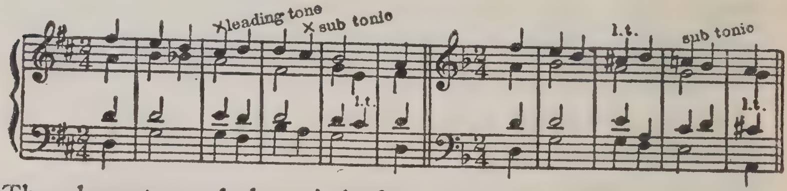
This lesson may be augmented to great advantage by doing the work at the keyboard. The requirement should be, for instance: Play the augmented triad of which G♯ is the fifth, naming the tones as they are being played, etc. This lesson is designed to bring home to the student the fact that a sounded tone is not necessarily "do", but the musically trained mind must be able to conceive a tone as any part of a combination. For the sake of further "ear-training", the student, having done the work on paper and at the piano, should also be able to sing any triad in connection with any given tone.

If the scale steps are considered from a harmonic viewpoint they are named tonic, supertonic, mediant, subdominant, dominant, submediant, leading tone (also called subtonic).


Subdominant
Submediant
Lower middle
1
2
3
4
5
6
7
8
Tonic,
Tonus,
the tone
Supertonic,
Tone above the tonic
Mediant,
Middle
Dominant,
The ruler
(see overtones)
Leading tone
or sub tonic,
(tone below the tonic)

The seventh tone of a scale can only be considered the "leading-tone" if it is part of a dominant formation; as such, its tendency to lead into the tonic is very strong. If the seventh tone is not a part of a dominant formation, it loses the upward tendency and deserves the name of "leading-tone" no longer. The term "subtonic" is then as good as any name. Significance, so far as the harmonic character of the scale steps is concerned, can only be found in the terms dominant, tonic, leading-tone, and possibly in the subdominant, lying a fifth below the tonic.

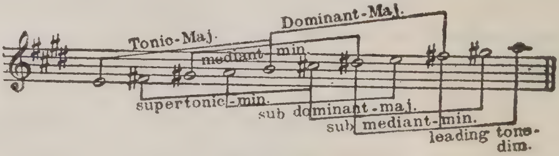
In the minor scale, the term "leading-tone" can only be applied when it concerns the chromatically raised seventh. In the descending melodic form, this tone must be called subtonic. The following examples show the difference between the leading-tone and subtonic.



The characters of the triads formed on the different steps of the major scale are:

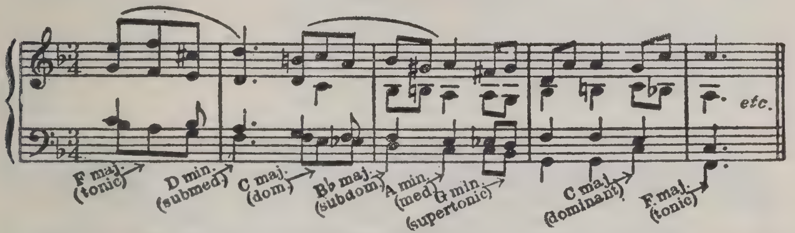
Triad on Tonic ....Major
" " Supertonic........Minor
" " Mediant ....Minor
" " Subdominant......Major
" " Dominant ....Major
" " Submediant ......Minor
" " Leading-tone .....Diminished

Triads in E major:



Lesson: Play the triads in any major key asked for, also naming them. For instance, if the scale asked for is F major, the student after striking the tonic chord, answers: Tonic triad: F major, F A C. Then Supertonic triad: G minor, G B♭ D; Mediant triad: A minor, A C E; Subdominant triad: B♭ major, B♭ D F; Dominant triad: C major, C E G; Submediant triad: D minor, D F A; Leading-tone triad: E diminished, E G B♭.

If this is carried out consistently, the student soon learns to associate any given triad with any key; he then realizes that G minor, A minor, B♭ major, C major, and D minor are integral parts of F major,—and a passage like the following will be readily understood.

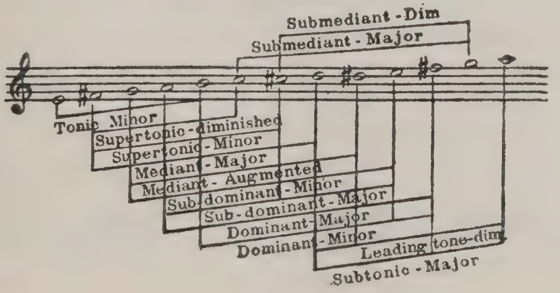

etc.
F maj. (tonic)
D min. (submed.)
C maj. (dom.)
B♭ maj. (subdom.)
A min. (med.)
G min. (supertonic)
C maj. (dominant)
F maj. (tonic)

It would be well to transpose this example into various keys, on paper, to see "how it looks" and also to play it in these new keys.

If triads are formed on the different steps of the minor scale, both the harmonic and melodic forms must be considered. The result is:

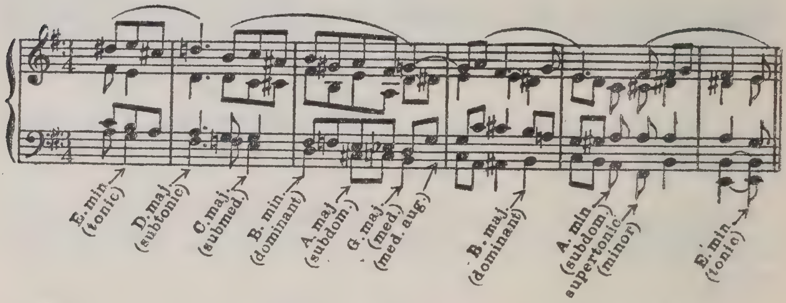
Triad on Tonic................Minor.
" " Supertonic..........Diminished or minor.
" " Mediant.............Major or augmented.
" " Subdominant........Minor or major.
" " Dominant...........Major or minor.
" " Submediant.........Major or diminished.
" " {Subtonic............Major.
{Leading-tone........Diminished.

Triads in E minor.


Submediant - Dim
Submediant - Major
Tonic Minor
Supertonic - diminished
Supertonic - Minor
Mediant - Major
Mediant - Augmented
Sub-dominant - Minor
Sub-dominant - Major
Dominant - Major
Dominant - Minor
Leading tone - dim
Subtonic - Major

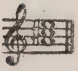
Lesson: Play the triads in any minor key asked for, also naming them.

If the key of E minor is asked for, the result will be: Tonic triad, E minor, E G B; Supertonic triad, F♯ diminished, F♯ A C, or F♯ minor, F♯ A C♯; Mediant triad, G major, G B D, or G augmented, G B D♯; Subdominant triad, A minor, A C E, or A major, A C♯ E; Dominant triad, B major, B D♯ F♯, or B minor, B D F♯; Submediant triad, C major, C E G, or C♯ diminished, C♯ E G; Leading-tone triad, D♯ diminished, D♯ F♯ A, or Subtonic triad, D major, D F♯ A.

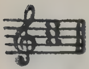

E.min. (tonic)
D.maj. (subtonic)
C.maj. (submed.)
B. min. (dominant)
A. maj. (subdom.)
G.maj. (med.)
(med. aug.)
B. maj. (dominant)
A. min. (subdom.)
supertonic (minor)
E.min. (tonic)

This example contains, with the exception of the diminished triads F♯ A C, D♯ F♯ A and C♯ E G, every triad possible in E minor. I have made no effort to introduce these chords as they sound better if the seventh is added. They will be dealt with more fully later on.

When we examine the different triads which compose the major and minor tonalities, we find that any major triad is found in eight different keys, a minor triad in seven, a diminished triad in four, and the augmented triad in one. For instance the A major triad may be found as:

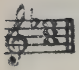


Tonic	triad	in	A	maj.	3♯.
Subdominant	"	"	E	"	4♯.
Dominant	"	"	D	"	2♯.
Mediant	"	"	F♯	min.	3♯.
Subdominant	"	"	E	"	1♯.
Dominant	"	"	D	"	1♭.
Submediant	"	"	C♯	"	4♯.
Subtonic	"	"	B	"	2♯.



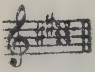
A min. as:

Supertonic	triad in	G	maj.	1♯.
Mediant	“ “	F	“	1♭.
Submediant	“ “	C	“	—.
Tonic	“ “	A	min.	—.
Supertonic	“ “	G	“	2♭.
Subdominant	“ “	E	“	1♯.
Dominant	“ “	D	“	1♭.



A dim. as:

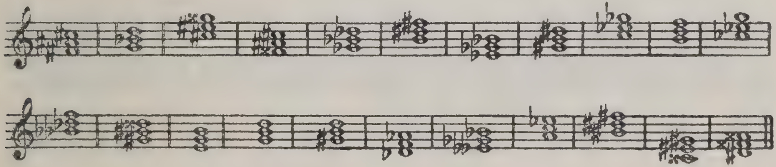
Leading-tone	triad in	B♭	maj.	2♭.
Supertonic	“ “	G	min.	2♭.
Submediant	“ “	C	“	3♭.
Leading-tone	“ “	B♭	“	5♭.



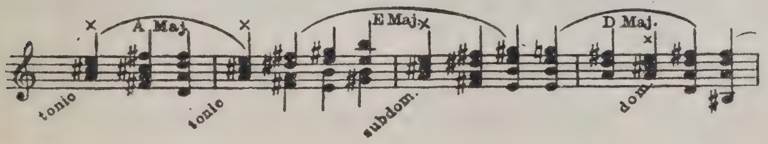
A aug. as:

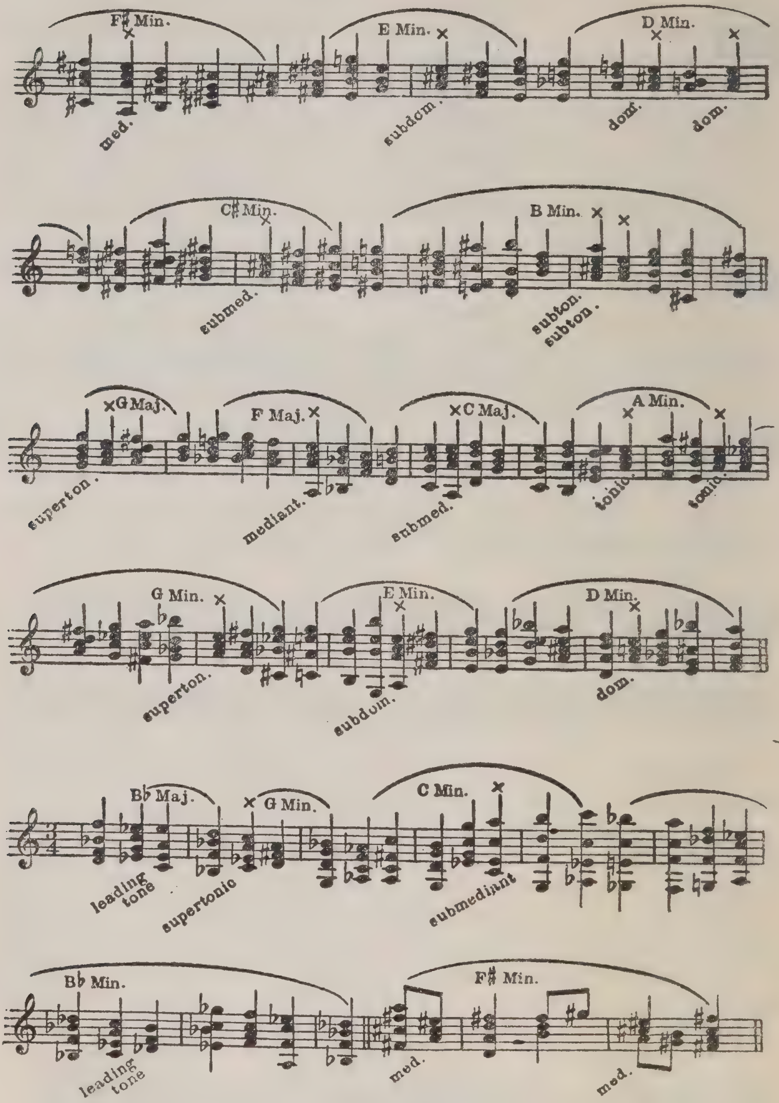
Mediant triad in F♯ min. 3♯.

Lesson: Find the keys to which the following triads belong (write this lesson according to the examples given above):



This lesson is to be followed by keyboard work, the teacher calling for any triad in any key; the student, besides playing the chords, naming the tones of which the triad is composed. The following examples are written to prove to the student the difference in character, or, perhaps better, the difference in "color", of all the triads which may be formed on A. They should be listened to with closest attention; each "phrase" is to be repeated a few times before going on with the next, lingering a little on the chords to be listened for, marked x.




F♯ Min.
med.
E Min.
subdom.
D Min.
dom.
dom.
C♯ Min.
submed.
B Min.
subton.
subton.
G Maj.
superton.
F Maj.
mediant.
C Maj.
submed.
A Min.
tonic.
tonic.
G Min.
superton.
E Min.
subdom.
D Min.
dom.
B♭ Maj.
leading tone
G Min.
supertonic
C Min.
submediant
B♭ Min.
leading tone
F♯ Min.
med.
med.

It is also well to transpose, on paper, these examples into a few other keys and to play them.

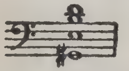
Inversion of triads. It is customary to use Roman numerals to indicate the step of the scale on which the triad is formed, thus:

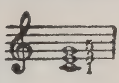
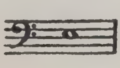
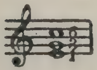
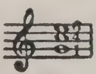
I—Tonic, II—Supertonic, III—Mediant, IV—Subdominant, V—Dominant, VI—Submediant, and VII—Leading-tone, or Subtonic.

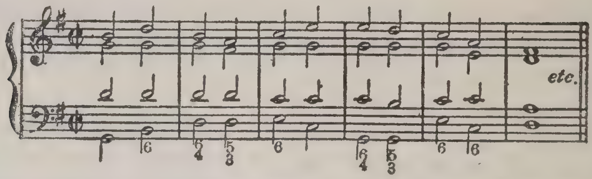
The inversions of chords are indicated by Arabic numerals. This system found its origin in a notation called "figured bass". Other names for figured bass are "thorough bass" and "general bass". In essence, it is an abbreviated notation used by composers of two and three centuries ago, who, in order to facilitate the labor of "music writing", frequently wrote only the principal part (usually a solo part for voice or stringed instrument) and a bass. Over or under this bass, figures were placed, indicating intervals of chords, to be used as an accompaniment to the solo part. The playing of these accompaniments on the harpsichord, clavicimble or organ made great demands on musicianship and was one of its most important requisites. No composers of Bach's or Handel's time ever wrote out the chords for the accompaniment of the recitative preceding an aria; the conductor, sitting at the harpsichord, played the harmonies demanded, and, with the beginning of the aria part, the orchestra took up the accompaniment, which, of course, was written out in the score by the composer himself. But the orchestra tone in those days, being comparatively thin, needed the support of the organ, particularly when accompanying choral parts. This organ part was also notated with a figured bass, often calling for such an exhibition of cleverness on the part of the organist as is absolutely unknown today.

The extemporization of artistic accompaniments according to a figured bass was an art extensively practiced and cultivated by every good musician; in fact "general bass playing" was an important part of music study. Chamber music, which was flourishing even during the century before Bach, as testified by the numerous Sonatas, Trios, Quartettes, recognized even to-day as real masterpieces, always demanded the participation of a clavicimble or harpsichord. But not even these parts were written out; the player had before him the bass part with figures, according to which he "composed", prima vista (at sight), an accompaniment. This style of writing was still in vogue during Mozart's time. His operas and those of contemporary Italian and French composers offer many examples of "secco" recitatives, which are usually quickly half-spoken, half-sung, passages, the words of which furnish the connecting links between the arias and ensemble numbers. These recitatives have comparatively little "pitch variety"—whole sentences being sung on a "monotone"—harmonies being changed as the different "pitches" demand. Even now these operas are usually given as Mozart wrote them; the conductor playing the chords of the recitatives on a small piano, which is part of the conductor's desk. Modern composers have entirely discarded this style of writing. They write out in full everything as they want it to sound; and for that reason general bass playing has become a lost art. The modern editions of the works of the preclassic period for practical use contain no figured bass parts. More or less competent musicians have "set out" these parts, considerably simplifying the task of the accompanist. It is only just to mention that the most artistic settings of the figured basses of the older chamber music were written by Ferdinand David, the excellent concertmaster of the Leipzig Gewandhaus orchestra during Mendelssohn's regime; and Robert Franz performed the same efficient service for the Handel and Bach oratorios.

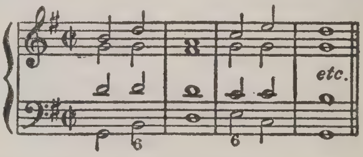
It is quite natural that theorists should have availed themselves of the figured bass system for the teaching of harmony; but, even as so used, it is passing more and more into disuse, as its principal reason for existence, that of learning to play accompaniments, has become obsolete. To-day, it is simply considered a convenient means of analysis and, to the composer, it furnishes a facility for "sketching". To my mind, the use of figured basses for teaching purposes has done more harm than good; it has, in many cases, impaired the development of imagination, and has brought the study of harmony into well-deserved disrepute, as being dry and uninteresting. It is almost incredible that it should have held undisputed sway for more than a hundred years, as the melodic thought has ever been (and always will be) the life of music. This thought shows its real artistic value, if it contains more than just one harmonic conception. (See Chapter I.) The most important part, next to the melodic thought, is naturally the bass part and the student's chief attention should always be centered on good bass leading. This can never be learned, nor taught, if the bass part is given, as is always the case where the figured bass system is used.

There are a great many different methods of figuring in existence. I shall make use of the very simple one of Roman numerals for scale steps and Arabic numerals for inversions. As we progress, the figuring of inversions becomes of less and less importance. It certainly means more, in a musical sense, to know that  is a dominant seventh chord of the key of A major or A minor than to know that it is a $^{6}_{5}$ chord on G♯. Nevertheless, figuring must be understood because, as mentioned before, it furnishes a convenient means of analysis; also because it is more or less generally known among musicians; and last, but not least, there are still being published "original editions" of masterworks of former times.

The principle of figuring is simple if one remembers that the given bass tone, i. e., lowest tone, is always 1. A triad in root position is composed of the intervals 1-3-5.  It has become customary to omit all figures if the root position is wanted. Thus  may mean E-G-B, E-G♯-B, E-G-B♭, E♭-G-B♭, E♯-G♯-B, E♭-G♭-B♭, etc. The sharps and flats are added according to possible signatures. If the third of a triad is placed in the bass the intervals are 1-3-6.  This first inversion is indicated by the use of the figure 6. If the fifth of a triad lies in the bass the intervals become 1-4-6.  This second inversion is indicated by the use of the figures $^{6}_{4}$. The relative positions of the intervals have no influence on the figuring; the only determining factor is the interval which is used as the lowest tone.

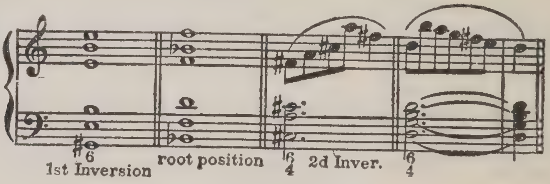


In the second and fifth measures the figures $\genfrac{}{}{0pt}{}{5}{3}$ are used after $\genfrac{}{}{0pt}{}{6}{4}$. This is done to show that the $\genfrac{}{}{0pt}{}{6}{4}$ chords here are merely "suspensions" of the succeeding root positions, or in other words these suspensions are melodic embellishments of



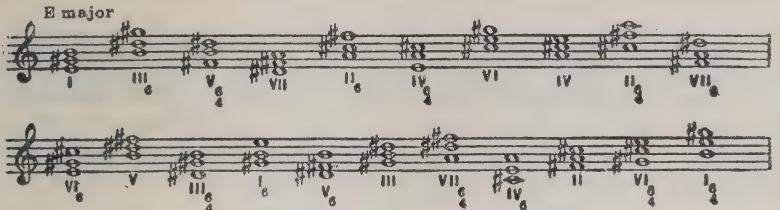
The character of these $\genfrac{}{}{0pt}{}{6}{4}$ inversions will be more fully explained in the succeeding chapter.

No matter how many tones are used in a chord, the lowest tone determines the figuring.

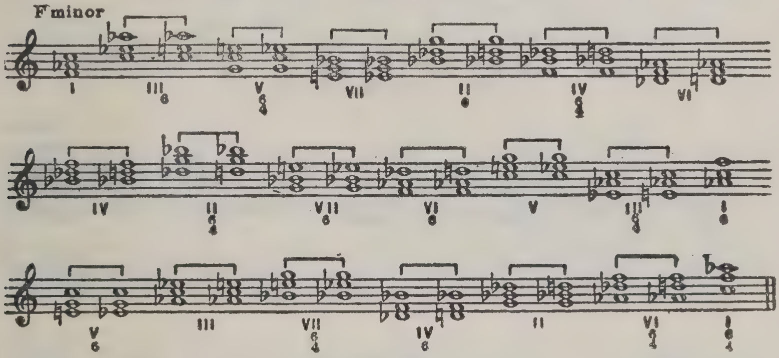


Lesson: The following lesson is designed to familiarize the student with every combination of the various triads. Its musical value is negligible but, as a mental exercise, it is of great importance.

$\mathrm{I}\ \mathrm{III}_6\ \mathrm{V}^6_4\ \mathrm{VII}\ \mathrm{II}_6\ \mathrm{IV}^6_4\ \mathrm{VI}\ \mathrm{IV}\ \mathrm{II}^6_4\ \mathrm{VII}_6\mathrm{VI}_6\ \mathrm{V}\ \mathrm{III}^6_4\ \mathrm{I}_6\ \mathrm{V}_6\ \mathrm{III}\ \mathrm{VII}^6_4\ \mathrm{IV}_6\ \mathrm{II}\ \mathrm{VI}^6_4\ \mathrm{I}^6_4$. Write this out in the following keys: A maj., D min., F♯ maj., D♯ min., F♭ maj., E♯ min., B♭ maj., C♯ min., and in as many other keys as may be found expedient. In reading the foregoing exercise, the student should proceed as follows: tonic triad in root position,—root in the bass;—mediant triad in first inversion,—third in bass;—dominant triad in second inversion,—fifth in bass, etc. In writing the exercises he must proceed as follows (either treble or bass clef may be used):


E major
I III6 V6/4 VII II6 IV6/4 VI IV II6/4 VII6
VI6 V III6/4 I6 V6 III VII6/4 IV6 II VI6/4 I6/4

If this exercise is worked out in a minor key, both forms of the scale must be taken into consideration. The following example in F minor will serve as an explanation.


F minor
I III6 V6/4 VII II6 IV6/4 VI
IV II6/4 VII6 VI6 V III6/4 I6
V6 III VII6/4 IV6 II VI6/4 I6/4

This work must be still further augmented at the keyboard, the teacher asking for any triad, in any position, in any key; the student striking the tones and naming them.

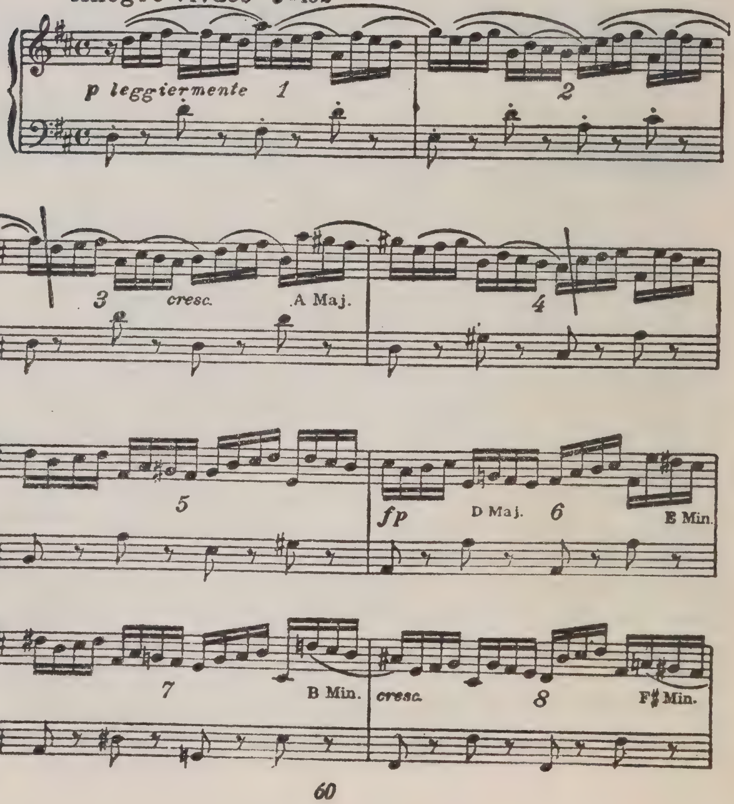
Key Analysis. When the student has faithfully worked the lessons outlined thus far, he should have a perfect knowledge of intervals, scales, and triads. This knowledge will enable him to do some key analysis. Bach's compositions are best adapted to this purpose and of these I would suggest, for the beginners, the two- and three-part Inventions; those who are further advanced may take up the analysis of some of the Preludes and Fugues of the Well-tempered Clavichord. This analysis can, at best, be only a general one, as detailed analysis demands knowledge far beyond the present stage. Nevertheless, students who are already good pianists or those who have "lived with music" all their days and are possessed of a mature mind, may well be told of the structure of these compositions. The element of phrasing, for instance, enters largely into an intelligent conception of even this key analysis, and it is the teacher's privilege to point out important matter connected with the work.

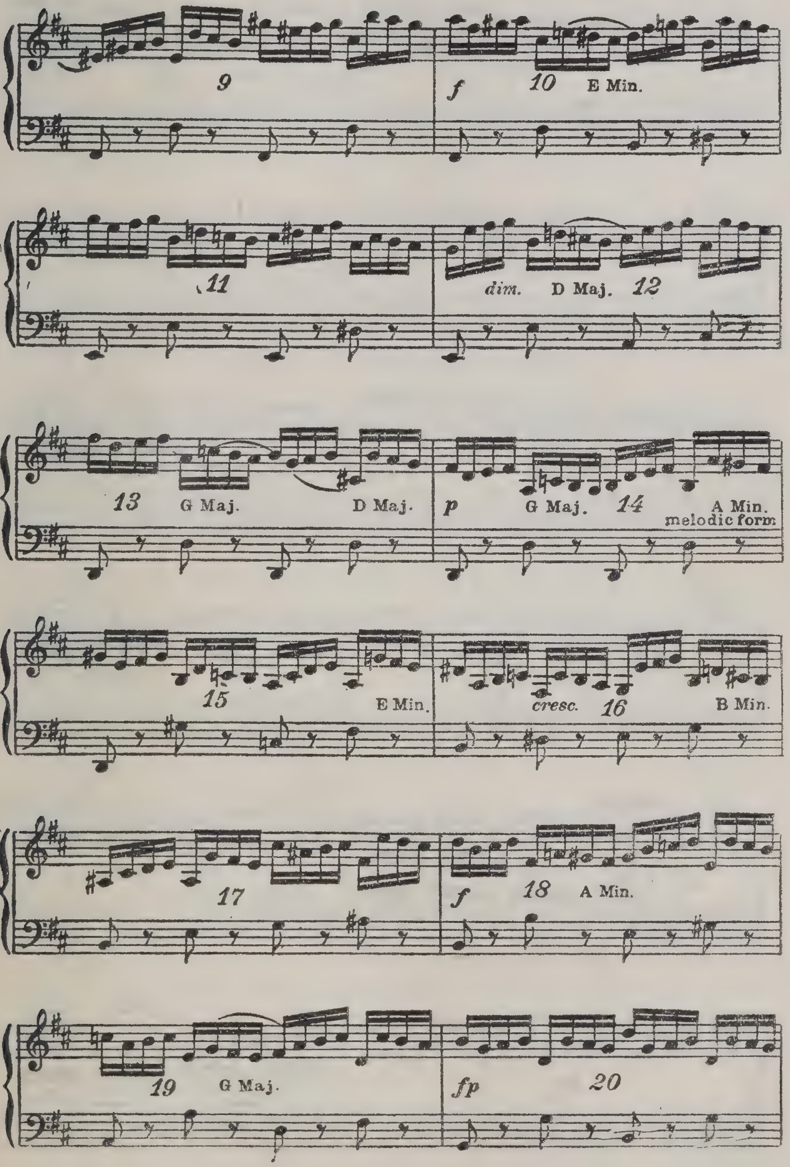
The student who accepts this in the right spirit will be greatly stimulated in all of his work, even tho the teacher does talk above his head. Bach's compositions furnish the best material, because there is almost a total absence of chromatic; their strength lies in the uncompromising use of diatonic intervals. From the Well-tempered Clavichord I suggest for analysis:

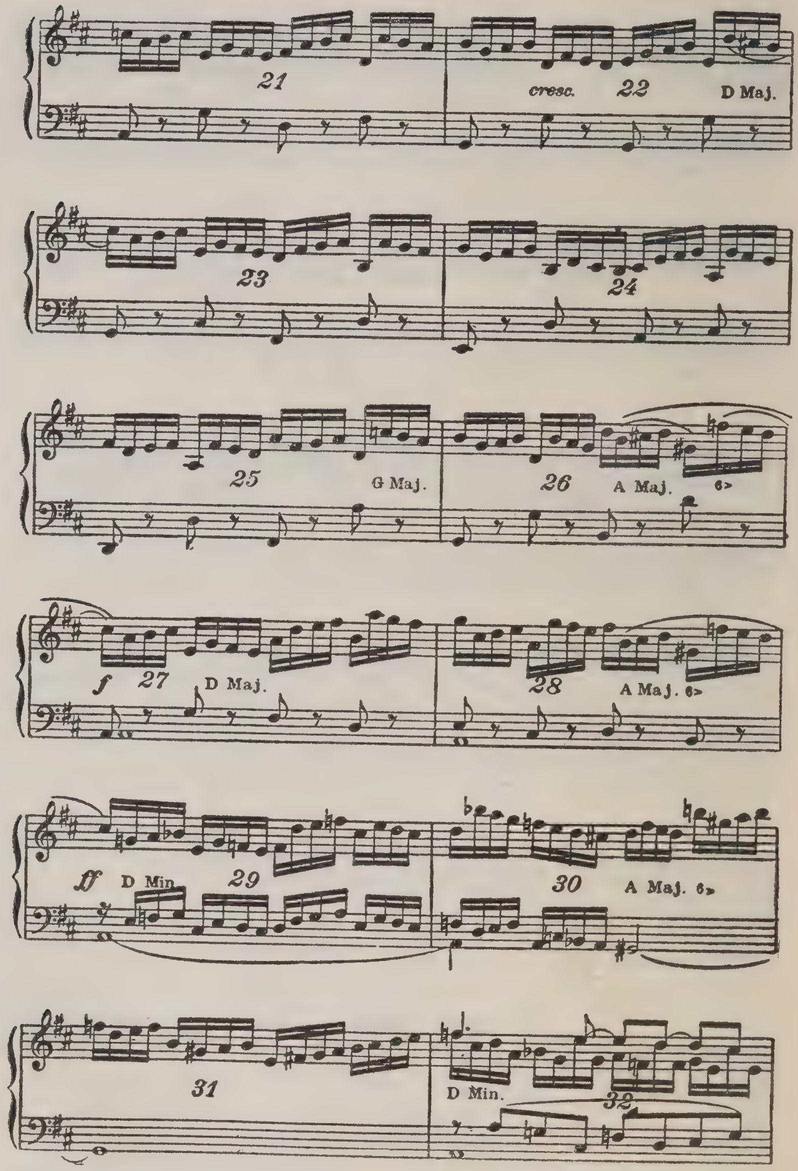
Prelude and Fugue in D maj.
" " " " C♯ maj.
" " " " E♭ min.
" " " " C maj.
" " " " G♯ min.

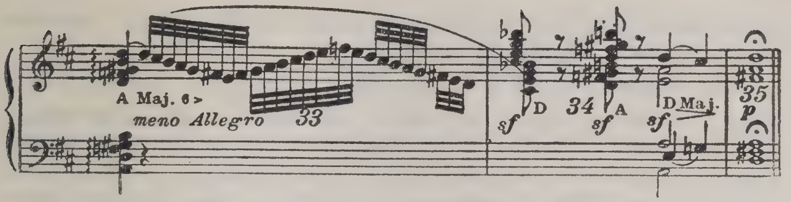
PRELUDIO V.

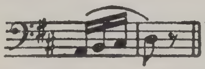
Allegro vivace ♩=132 **Bach.**

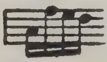

p leggiermente
1
2
3
cresc.
A Maj.
4
5
fp
D Maj.
6
E Min.
7
B Min.
cresc.
8
F♯ Min.


9
f
10
E Min.
11
dim.
D Maj.
12
13
G Maj.
D Maj.
p
G Maj.
14
A Min.
melodic form
15
E Min.
cresc.
16
B Min.
17
f
18
A Min.
19
G Maj.
fp
20


21
cresc.
22
D Maj.
23
24
25
G Maj.
26
A Maj.
6>
f
27
D Maj.
28
A Maj. 6>
ff
D Min.
29
30
A Maj. 6>
31
D Min.
32



The D Major Prelude, as analyzed above, furnishes the example for the analysis of the other works suggested. The student must learn to understand the following fact: the first D in the Bass is merely a beginning; it can even be considered the end of a nonexisting motive:  but in most compositions, beginning on a first beat of a measure, the initial tone, or chord, is a point of departure. The motives in the upper part must be read as indicated—three 16ths of "unrest", leading into the first 16th of the second group. The first real point of repose is felt on the first F♯ in measure 3—the next one on A—the first tone of the third group of 16ths in measure 4.

But this kind of analysis I shall carry no further—as it presumes a thorough knowledge of "composition" on the student's part. The student must, however, realize this: Music is not printed according to motives or phrases; the grouping of four 16ths  perhaps aids the eye, on account of regularity of design, but it must never be played as tho it were a motive.

If the motives are understood, as I have indicated, this Prelude can be played with great speed—never jeopardizing the feeling of repose.

(Repose is not a matter of tempo, but a comprehension of motives and phrases. It is quite possible to play a composition with lack of repose, no matter how slow the tempo; on the other hand, mature understanding of contents will enable the performer to "project" the meaning of a composition into the listener's mind,—regardless of speed.

How often does the performance of the last movement of Chopin's B♭ minor Sonata produce nothing but a jumble of sound?—and likewise the pizzicato movement from Tschaikowsky's 4th Symphony?—merely because the players fail to realize the motives and phrase divisions.)

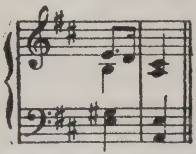
To resume; the G♯ in measure 3 indicates the key of A major, which is again supplanted by D major in measure six. The last motive in this measure introduces a D♯ which immediately foreshadows the key of E—here E minor, as the G in the 2d group of 16ths in measure 7 proves. This permits of the following statement: Where the 7th and 3d steps of a scale are unmistakably proven, the key cannot be in doubt. The 7th is either the last sharp, or that tone which, in scales with flats, becomes the added flat in the next scale; and the 3d proves the major or minor character of the key.

Measures 7 to 12 do not call for comment. In measure 13, the C♮ unquestionably suggests a momentary feeling of G major—a drawing on the subdominant resources of the D major key. Measure 26 might prove puzzling. The "key", according to the signs, is A major, but the F♮ seems out of place.

The markings show this F to be a lowered 6th (6>) of the scale—an altered tone. Its right to an important place in the construction of the major scales is based on this reasoning: If E major represents the V triad in A minor, then A minor may represent the IV in E major. The E major V necessitates the raising of the 7th step of the minor scale—the A minor triad, the lowering of the 6th degree of the major scale. In other words: the counterpart of the raised 7th in minor is the lowered 6th in major. Nowadays this lowered 6th is introduced as freely as the raised 7th in minor; it may be a part of any chord which employs the natural 6th.

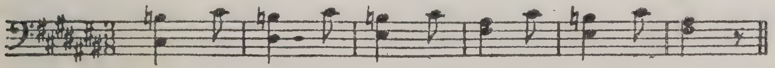
In measure 26 it is part of a diminished 7th chord: G♯ B D F♮. Later on this chord is recognized as the VII°_{7} of the V key, but for our present purpose the key is actually A major with 6>. The introduction of the F♮, even in conjunction with G♯, proves its relationship to D minor—witnessed by measures 29 to 34. The first chord in measure 34 belongs more to D minor than D major; but the second one is undoubtedly a part of the A major key—which here represents the V of D.

The D Major Fugue presents no difficulties; but the student must begin to realize that a modulation may not be visible, and yet may be audible. The second measure shows no signs of a modulation. Yet, the ear will readily recognize the harmonic necessity of a V to A major on its 4th beat. Don't fail to prove this by **inserting**



The 2d beat in measure 24 looks G major but sounds E minor —take notice!

The analysis of the C♯ Major Prelude permits of some valuable observations. Students who analyze by "sight" invariably place the advent of the G♯ major key in the 14th measure, while, in fact, a modulation into this key has taken place in measure 8. Prove this! It must be taken into consideration that the C♯ major key of the first period is not really established until measure 6—where the B♯ supplies the leading-tone. As a matter of fact, it is not difficult to imagine the sound of F♯ major, up to measure 6—yet such is the strength of "faith" that most people could not possibly hear any other key than C♯ major because "the signature contains 7 sharps". Play the first 6 measures with the following bass to be convinced.



Every one of the different eight-measure periods contains the leading-tone of its key in the 6th measure, yet the modulation into the respective keys is made in the last measure preceding the entrance of each period. Do not fail to notice the regularity with which the periods follow each other—also their distribution between "the hands."

The Fugue in E♭ minor also contains a place where sight and sound do not coincide. Listen carefully when you play measures 52 and 53.

The student may encounter puzzling conditions in almost any of the compositions suggested for analysis; but these may be easily solved with the teacher's aid.

Recognition of keys, based on an understanding of scales, is only one of the first steps on the road to perfect musicianship!

The principal benefit to be derived from the present work lies in the growing appreciation of the meaning of: "Learn To Listen!"

CHAPTER V

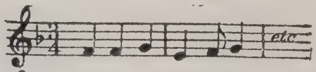
FOUR-PART WRITING

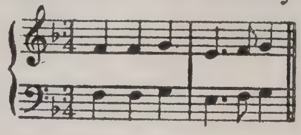
Most musicians think back to the time they pursued this study with a mild feeling of regret; they now realize how little they profited by it, and how useless it seemed to string chords together after the manner of the child stringing beads on a thread.

It is true that most of the older systems were dry and uninteresting, devoid of stimulation of imagination—producing nothing but mechanical knowledge of various chords and, perhaps, a certain knowledge of stereotyped voice progression. That this study can be made interesting goes without saying. All that the student has to remember is that the harmonic element is the result of melodic conditions. This fact must ever be borne in mind. A certain amount of drudgery cannot be avoided; proficiency can only be obtained through conscientious and long-continued practice. It is safe to say that a real understanding of harmony, on the basis of four-part writing, cannot be looked for with less than two years' study; that is, where the average talent, devoting an average amount of time to the work, is considered. In order to relieve the unavoidable monotony of the four-part work, the teacher should ask occasionally for free compositions in the form of a song or a short piece for piano. What does it matter whether the student observes the rules or not? The master-teacher will soon convince the intelligent young musician if something is essentially wrong. On the other hand, if the teacher is convinced of the existence of a strong musical talent, he will frequently be compelled to find the necessary excuses for apparently broken rules. Yet, you talented student, remember that license cannot be granted unless you prove that you have mastered the rules!

The importance of four-part work is easily and convincingly proven. All music is more or less based on the imitation of the characteristics of the human voice. Its four most prominent tone characteristics have been designated by the terms: Soprano, Alto, Tenor and Bass. Nothing is more satisfying than the blending of these; a fact so well understood, from time immemorial, that even makers of orchestral instruments incorporated these characteristics into the different "families". This desire of voice imitation was most pronounced in the "make-up" of the orchestras of the middle ages. There used to be four sizes of Flutes, from the Piccolo down to the Bass Flutes, the latter now, unfortunately, obsolete. There are still in use the four members of the double reed family, namely: the Oboe, Oboe d'Amore (seldom met with), English Horn, and Bassoon. The Trombones also used to be built in four sizes: the Discant or Soprano, the Alto, Tenor and Bass Trombones. The first of these has disappeared entirely; the Alto Trombone has also been discarded by modern composers, on account of the improvements made in the construction of Trumpets and French Horns, which have taken the place of the former. The clarinet family used to consist of four members, of which the Alto Clarinet has become obsolete. Saxophones, invented by Sax, about seventy years ago, are being built today in four to seven sizes and, lastly, the stringed instruments have always upheld the four-part traditions and will probably continue to do so until the human voices change! While the modern orchestra is constructed on somewhat different principles, the mixing of tone-color having taken precedence over the mechanical grouping, still this greatest of all instruments sends forth its sounds, from the monodic strain of a solo to the most thunderous combination of all its component parts, on the basic idea of four parts. And what of the music written for piano or organ? Does it also come under the, apparently, restrictive laws of four-part writing? Most certainly! That which, at first glance, seems to be only a piling up of intervals into combinations which demand, at times, the use of all the ten fingers and on the organ the feet in addition, for their transmission into sound, will on careful analysis prove that the four-part idea is ever present. The intelligent musician will easily dissect even, apparently, complex combinations, proving the inherent four-part construction. One may liken the fundamental importance of the four parts to the bone structure of the human body, both providing strength and stability.

The student should read over the foregoing explanations at times when unavoidable monotony threatens to become drudgery; it may help to renew his efforts towards mastering the laws of four-part writing.

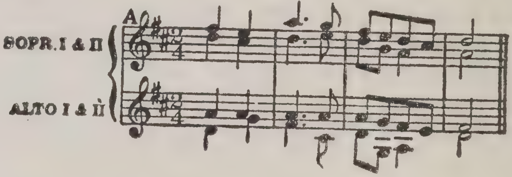
The terms: Soprano, Alto, Tenor and Bass must be understood in their modern sense as well as from their historic derivation. Soprano and Alto designate women's voices, also those of boys; Tenor and Bass—men's voices, sounding, generally speaking, an octave lower than women's. If, for instance, the following  is sung by women and men the actually resulting effect is:



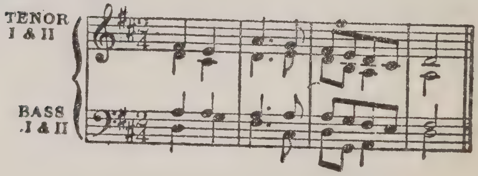
For the ordinary four-part work it is customary to write within the range of "voices". While this may sometimes prove an irksome restriction it, nevertheless, should be adhered to as much as possible.

If the student in the course of this study invents work which lies either too high or too low, he should use the simple expedient of transposing it into a lower or higher key. On the other hand, it may happen that an exercise may lie high in all four parts. He may then claim to have written it for four women's voices; or if it lies low throughout it may have been written for men's voices, or, for that matter, he may have had instruments in mind

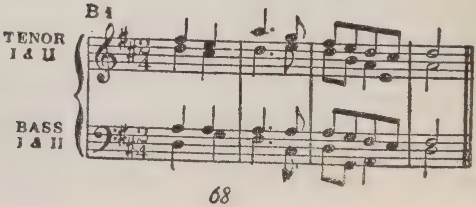
A

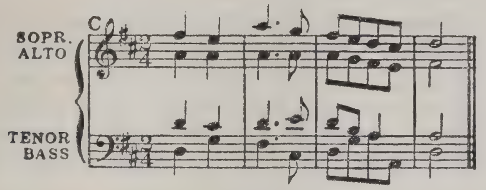


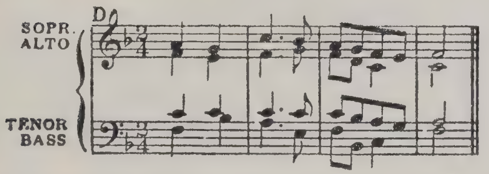
B



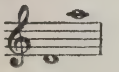
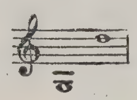
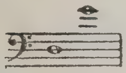
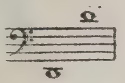
B 1





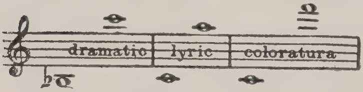


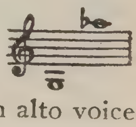
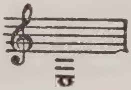
Ex. A shows the setting for women's voices. Ex. B gives the sound of men's voices, notated as in Ex. B 1, the tenors, being written an octave higher than their actual sound. Ex. C is the typical setting for mixed voices,—women and men,—but examples A and B if transposed into the key of F major, as at D, make the same chord constellation available for mixed voices.

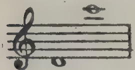
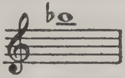
The range of an ordinary soprano part should not exceed the limits  The alto range is  The tenor range  at present written in bass clef and the bass range  The student must understand that these ranges are given for practical reasons. They permit of "voice leadings" such as he will have to deal with in four-part work. The terms soprano, alto, tenor and bass designate, therefore, in this case, certain positions of voices and even the term "voice" must be considered in its larger sense, i. e., a "part", which may just as well be an instrument as a human voice.

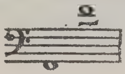
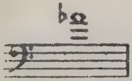
The range of actual human voices differs greatly. Choruses composed of amateur voices will be able to sing within the ranges mentioned above. Different demands are made on voices trained for solo singing. Song literature, with very few exceptions, is conservative in its demands, but the operatic stage calls for singers whose achievements border on the superhuman. Hats off to those singers who have perfect control of all the demands which an exacting opera part makes on them. They are gifted artists endowed with voice and musical talent of the highest order; unusual brain power—physical strength—imagination and the largest capacity for hard work. But, alas and alack! too many singers are sadly lacking in some of these requirements, and they are particularly deficient in musical culture, due usually to the fact that they never began the serious study of music until they discovered that they had "a voice". This has shipwrecked many otherwise justified hopes. The most deplorable part is, however, that very few would-be singers come to a realization of their shortcomings; they travel their limited orbit in the musical universe, thinking themselves light-spending suns, while they are nothing but small satellites. This has brought the singers, as a class, into disrepute in the musical fraternity, but again I say "hats off" to the true artists among the singers.

The sopranos are divided according to character and range into dramatic, lyric and coloraturе. The lyric soprano represents the average voice; it is also called mezzo-soprano.

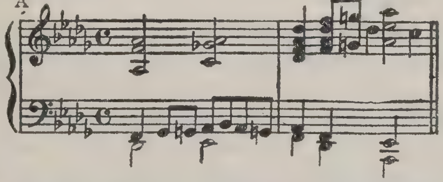


Real alto voices are rare. If altos possess depth, they are lacking in height; but usually they are "dark-toned" mezzo-sopranos with a few lower tones and a range of  On the recital platform one hears, once in a while, an alto voice which reaches down to  Schubert in his song "Death and the Maiden" even called for a low D, but it is notated as an optional tone.

The tenor voice also possesses various qualities, of which the generally recognized ones are the lyric and dramatic (also called heroic or robusto). The former is the true tenor quality often resembling the alto, yet the tones are almost saccharine in their sweetness. Whatever else a lyric tenor does not possess (and he usually falls short of a great many things) a high C is an absolute requisite. His whole claim to distinction generally lies in a few high tones, altho his range is supposed to be  The tenor of hero parts has a quality which frequently resembles a baritone (the high bass), altho his range is about the same as given for the lyric tenor, except that he is not supposed to sing higher than  The tenor parts are usually notated in treble clef, even in the chorus scores, but it must not be forgotten that their sound is an octave lower).

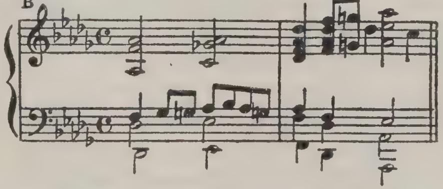
A real bass, like a real alto, is a rare phenomenon among soloists. Most so-called basses are baritones with a range approximating  (The real baritone not infrequently reaches ). There is a reason for this: low bass tones can only be of value as harmonic foundations; melodic tones, in a low register, lose their carrying power on account of conflicting overtones.

A



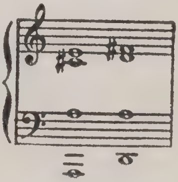
In example A the effect is almost that of two fundamental basses sounding simultaneously.

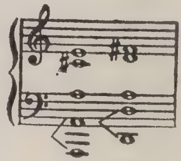
B



Example B sounds better because the melody, the part just above the real bass, is heard an octave higher. It has lost its bass qualities; its overtones sound less distinctly and it now becomes a true melodic thought. (I might as well admit right here, in order to forestall criticism, that even the first version may become acceptable, if thought orchestrally; in that case the melodic idea might be played by a bassoon, a bass clarinet, or even by a 'cello. It has always been a difficult task for me to invent faulty examples; I have had to leave that to the inexperienced student. Every musical thought, tho it seem ever so grotesque and impossible at first glance, may be accepted if it expresses the realization of a definite idea.)

The student must learn to distinguish between a bass melody and a bass which provides the foundation for a harmonic structure. The latter has a quality of sound which is fundamental and which is of greatest importance. The richest, most satisfying sound is produced when the bass tone, as fundamental, is at the same time the generator of overtones which emphasize the tones of the superstructure.





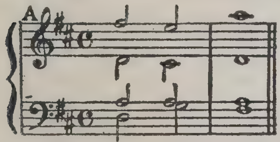
The A and the D produce, as overtones, the intervals A C♯ E and A D F♯ respectively. If the octave is then added to the bass, the sound becomes even more satisfying, because the octave is the first overtone, now also emphasized.

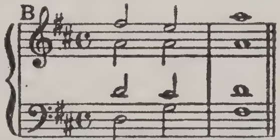
(This explains at the same time why, in the orchestra, the low bass tones are seldom used alone; the octave, their first overtone, is supplied by some other instrument, thus strengthening their fundamental qualities. Organists frequently neglect to couple the 16 foot pedal tones to an 8 foot stop, particularly in soft passages, and the resulting grumbling and rumbling sounds are not always agreeable.)

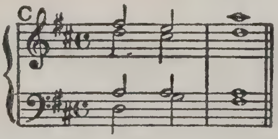
It may not be amiss to call the students' attention to the literal meaning of the terms soprano, alto, tenor and bass. The term tenor was applied to that voice which gave out the cantus firmus, usually one of the Gregorian chants. Its meaning, to hold, to lead the thread of the musical thought (Latin—tenere), is even better understood if considered in the English language, to wit: the tenor of a story or the tenor of a decision. In other words, the tenor in music was the "holder" of the melody. To this tenor usually a discantus was improvised according to certain rules. This discantus (deviating chant) lay above the tenor. Later on another voice was added, which was called the contratenor. This voice twined around the real tenor part, sometimes reaching above and sometimes below, from which it received the names of contra tenor altus (altus = high) and contra tenor bassus (bassus = low). The name of discantus was, in time, changed to soprano, derived from super or the Italian sopra, meaning "above", or in other words: the voice above the contra tenor altus. (I have given the foregoing facts principally in order to explain the apparent incongruity of giving a low voice the name alto, which in reality means high.)

To expedite the understanding of four-part work, the following suggestions will prove of value:

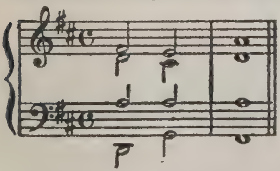
Soprano and alto should, at present, not be written more than an octave apart, as otherwise the soprano would be isolated to such an extent as to create the impression of a solo part accompanied by the other three voices in another register.

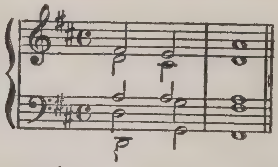




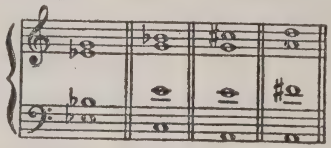


In Ex. A the distance between soprano and alto is more than an octave. This may prove to be effective in string quartette or any number of other combinations, but for our present purpose the setting at B is more practical. Neither will it be practical to write the alto and tenor parts more than an octave apart as in Ex. C because the four voices are not blended, two distinct registers making this impossible. On the other hand the bass may be more than an octave removed from the tenor. This is accounted for by the fact that the bass, as lowest part, produces the strongest (most audible) overtones, of which the octave is of greatest prominence, thus filling the apparent gap. The effect is almost the same as if the example were played thus:

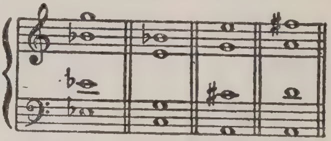




This brings us to another consideration, the so-called "close" and "open" positions of chords. A chord is said to be in close position if the three upper voices lie within an octave:

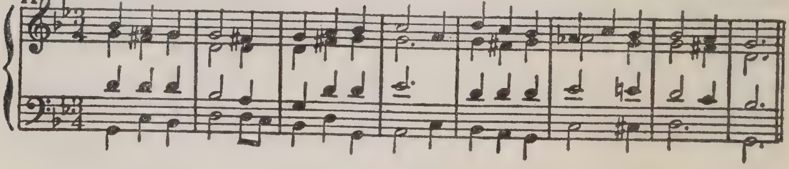


In open position, the three upper voices are spread over more than one octave:

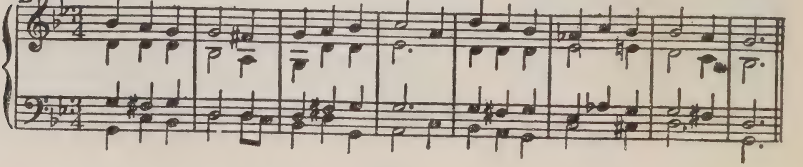


I consider the restriction of writing exercises either in close or open position almost a waste of time. The position of a chord is always the result of intelligent voice-leading; this must be the first consideration. The following examples show at A close position, at B open position, at C mixed positions. While examples A and B may be satisfactory, Ex. C is by far the most interesting. The student should point out the close and open positions of the harmonies in Ex. C.

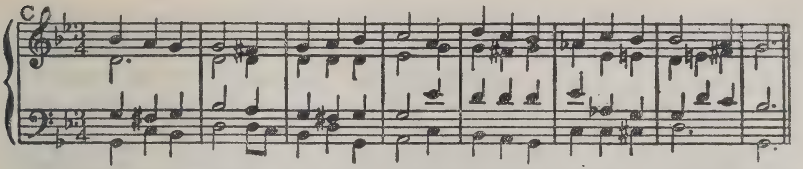
A



B

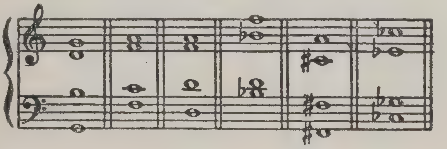


C

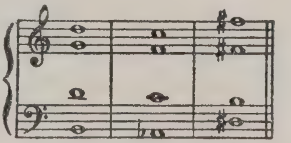


The movement or "motion" of voices in relation to each other is either parallel or contrary. The latter is considered the "stronger" of the two because it manifests greater independence. It is customary to recommend contrary motion between soprano and bass. While this is a good rule to observe, a student must be cautioned against its slavish application.

The first exercises will be written exclusively with triads and, as a triad consists of only three tones, it becomes necessary to double one of the intervals. The best tone to double is usually the root of the triad, particularly if the root lies in the bass. This is again accounted for by the fact that the bass produces the strongest overtones, of which the octave is the most prominent; thus the doubled root becomes merely an emphasized overtone.

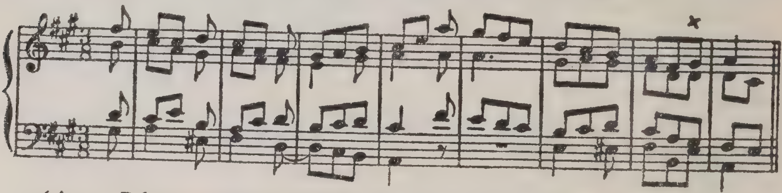


The next best tone to double is the fifth of the triad, because the fifth is the second strongest overtone. This is particularly effective if the third of the triad lies in the bass and one of the fifths in the soprano.



The doubled fifth is also employed if the second inversion of the tonic triad is used. This will be explained a little later.

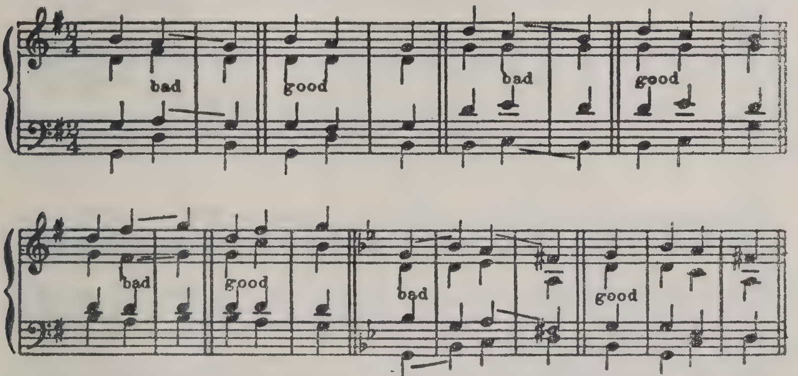
The third of a triad should only be doubled if it is approached in contrary motion and preferably with diatonic steps. The doubling of the third is, as a rule, to be avoided, because it is the most sensitive interval, instantly determining the major or minor character of a triad. Furthermore, a major triad has, first of all, the character of a dominant (see chapter on overtones). Its third is therefore in reality a leading-tone, which is without question the most insistent of all the scale tones and **the leading-tone must,** at present, **not be doubled.** The third of a minor triad cannot be regarded as a leading-tone except "by courtesy"; hence the distinction that the third of a minor triad may more readily be doubled than the third of a major triad. The following example shows a number of triads with doubled third, all of which are the result of correct voice-leading. The student should point out these triads and his attention be drawn **to the contrary** motion of the voices leading into **the two thirds.**



(At x I have even introduced a doubled leading-tone, just to show that no rule exists which does not permit of exceptions. The excuse here lies in the fact that the doubled leading-tone is not only approached, but left, with contrary, diatonic motion.)

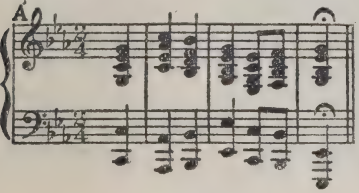
The insistence of the leading-tone for half-step progression upwards makes its doubling impractical, because, if this insistence is created simultaneously in two independent voices, both feel the need of the half-step progression upward which would involve the breaking of the following fundamental rule: **Parallel or consecutive octaves in the same two voices are forbidden.**

The following explanation will show the reasons for this. At the opening of Chapter V, I spoke of the importance of four-part writing. If this was appreciated, then the student will readily see why the four parts must be led absolutely independently. If two parts move temporarily in octaves, the independence of one of the voices is destroyed, which is unsatisfactory to the musically trained ear. The octave, as has been pointed out repeatedly, is the most important overtone;—its ratio of vibration is invariably 2 to 1, or, in other words, the octave is a perfect intensification of the lower tone; it stands to reason that if two octaves occur in succession the individuality of one of the voices is renounced; this is particularly objectionable if this renunciation is involuntary—the result of inexperience on the part of the writer. The following examples should be played and listened to very closely.



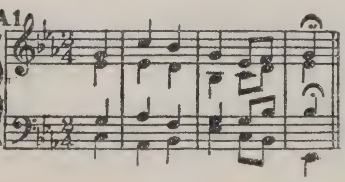
An inexperienced student will frequently admit that he does not appreciate the difference in sound—this shows, of course, nothing but lack of cultivation; and, at that, it is usually the pianist who is lacking in the finer perception. He will invariably interpose the objection: "But we are playing in octaves so constantly!"—Yes, this is perfectly natural: the octave, being the best overtone, lends itself most readily to the purpose of doubling. But any part doubled by its octave is merely emphasized. This emphasis becomes necessary and, needless to say, most effective when more than four voices or instruments are employed or when a particular tone color is wanted.

A



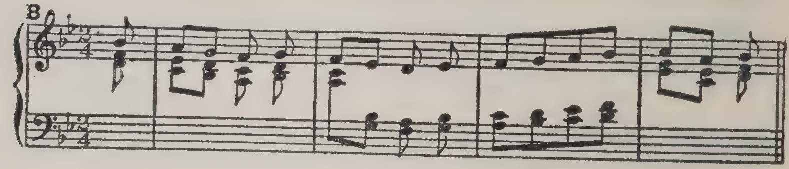
Examples like this are to be found on almost every page of the literature for piano. Here both the melody (or soprano) and bass are emphasized. Its pure four-part equivalent follows:

A1

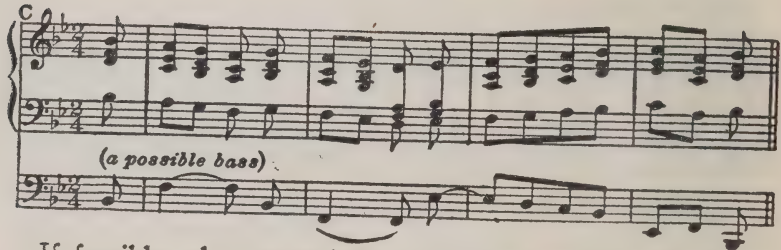


If the melody of Ex. B is sung by women and men in unison, (really in octaves) the effect indicated at C (but without the bass) results, which however is unobjectionable being, again, nothing but an emphasis.

B



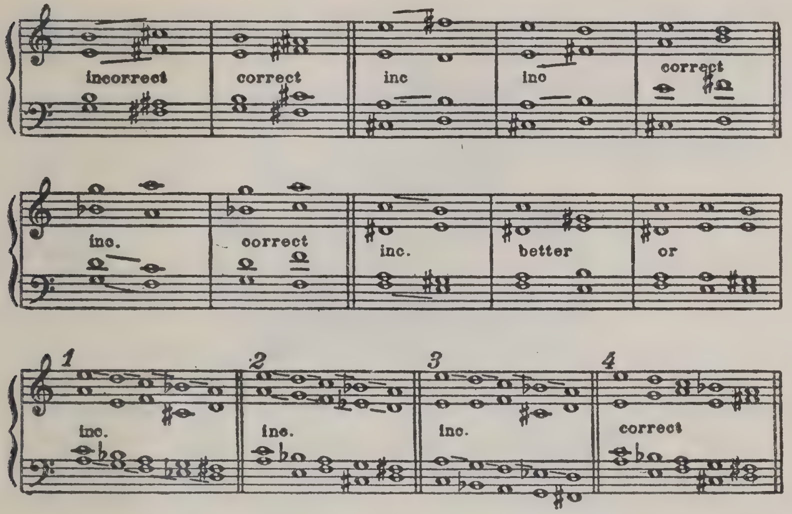
C



If feasible, play example B and let women sing the upper part; then play example C without bass and have women and men sing the melody; then repeat this and add the "possible" bass. It will be found that all three versions are practical and good.

Another extenuating circumstance is the fact that the character of the voices is so distinctly different that the thought of faulty octaves would never enter the mind of the listener. If played on the piano, without the added bass, this difference in tone color does not exist and the sound is far from being satisfactory. The student who has access to the quintette for piano and strings in E minor by Sinding, should play the second theme of the last movement; it furnishes a striking example, almost refuting my contention that such a passage sounds less satisfactory "if played on the piano." (Present day writers revel in similar effects.)

Parallel perfect fifths between the same two voices are to be avoided. The reason for this rule is the same as given for octaves, i. e., the fifth, as second overtone, has almost as little independent sound as the octave; therefore, a succession of perfect fifths destroys the independent leading of one of the voices almost as completely as do the octaves.


incorrect
correct
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better
or
1
inc.
2
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3
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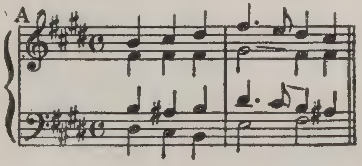
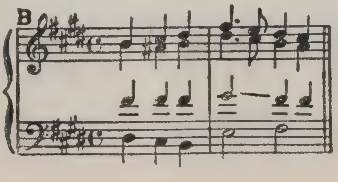
4
correct

Parallel fifths are on the whole not quite so objectionable as octaves, because the fifth, as second overtone, has greater independence in sound than the octave. While they must be avoided in strict four-part writing, particularly when the composition is for actual voices, yet in instrumental works of even our most discriminating composers parallel fifths are sometimes met with. So, for instance, Beethoven writes in the E major Sonata op. 14, No. 1, for piano, the following passage:

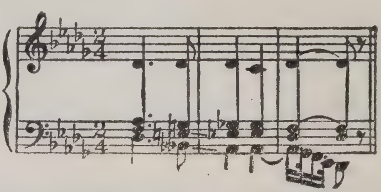


He could easily have avoided the fifths, if he had used close instead of open harmony.



The fifths would then have become fourths, which are permissible; but he would have sacrificed the sonorous tenor part at A to the insipid sound at B.

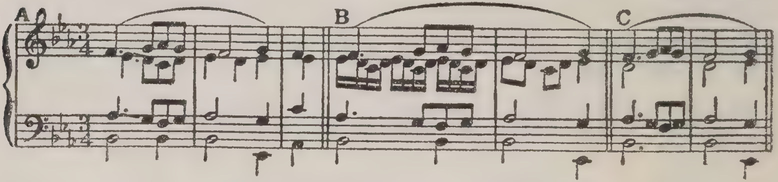
The theme of the second movement of his Sonata op. 57 contains the following progession:

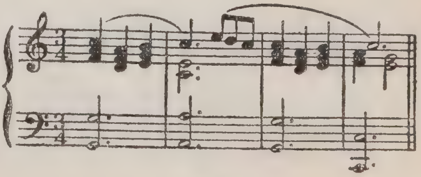


The fifths are not apparent to the eye because Beethoven wrote E♮ instead of F♭, the latter being, of course, much more correct.

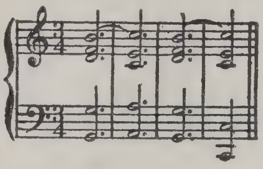
B♭♭ to E♮ looks like a double augmented fourth but sounds, of course, like a perfect fifth and can therefore not be heard as anything but a perfect fifth. (An explanation of these fifths will be found in the chapter on augmented 6th formations.)

Parallel fifths are quite frequent when they are of melodic rather than harmonic character. The alto part (Ex. A) is unquestionably a slow turn, moving in unity with the rhythms of soprano and tenor. Ex. B shows the melodic nature of the alto even more clearly, while Ex. C illustrates the plain harmonic contents of this phrase. The following little motive furnishes still another illustration of perfectly well-sounding fifths. While at first glance these seem essentially harmonic, a closer analysis will reveal their melodic character.

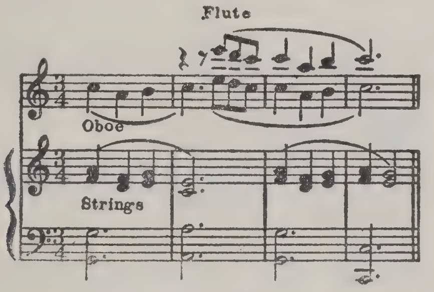




Its purely harmonic contents—

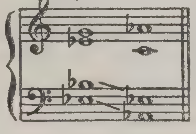


and melodic construction would stand out much more clearly in orchestral colorings.



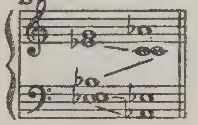
Another species of parallel fifths which "looks" wrong but "sounds" right is frequently met with in writings for piano. The student who relies on his "ear" entirely will be apt to "overlook" them, but they must be pointed out to him or, still better, if he knows of their existence, he must mark the apparently faulty leading.

A

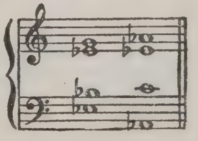


These are to be accounted for as the result of a leading based on the idea of five voices instead of four. The effect in Ex. A is the result of leading as illustrated at B.

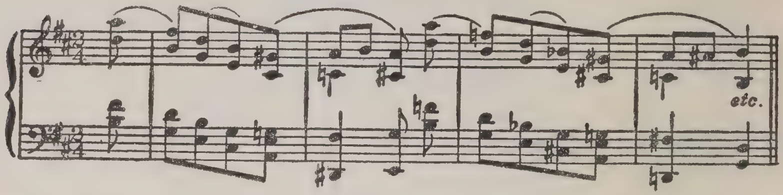
B

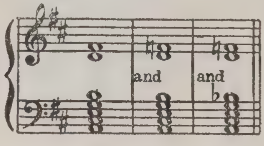


If the object is to set this progression for only four voices it must be written:



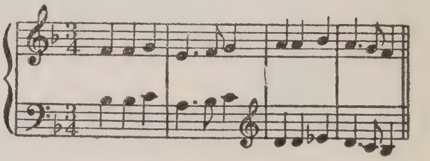
One more example of fifths, to be explained as "chord sequences", which produce a good effect where instrumental writing is employed:



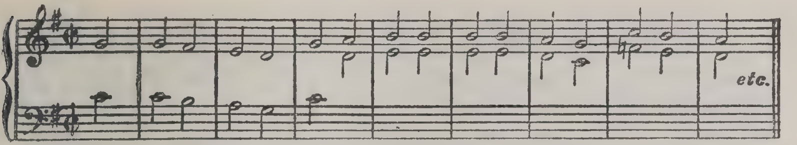
This example may also be explained as an arpeggio of an extended chord of which each of the foregoing combinations forms a part.  (The G♯ at the end of measures 1 and 3 is a melodic tone, a chromatically raised seventh, or, still better, it may be considered a leading-tone to the dominant, A.)

Thousands of similar examples could be furnished from the writings of almost any good composer, but the foregoing explanations will fit the majority of cases.

I have tried to show in the above examples that the fifth retains a greater independence in sound than the octave. This is, however, the very reason why it does not lend itself as readily for the purpose of doubling. Our modern "educated" ear does not accept the following combination as esthetically permissible, altho I shall prove that it sounds well enough to primitive ears and give the reasons further on:

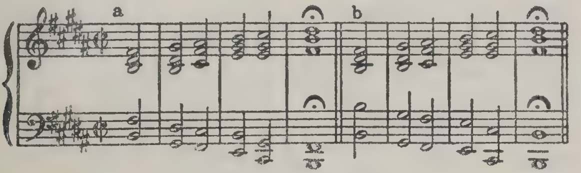


Here the second voice merely doubles the melody by supplying the lower 5th; the same condition exists in the next example.



We, musically sophisticated, reject these because of the lack of independence of one of the parts and consequent deficiency in variety of sound. The outspoken melodic character of the musical thoughts makes this particularly objectionable to us.

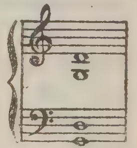
If similar 5ths-progressions are placed in the bass and, particularly, if the bass tones are the fundamentals of the superstructure, the effect is practically the same as if this bass had been doubled by the octave, instead of the 5th, as the next two examples will readily show.



If anything Ex a sounds somewhat richer than Ex. b, yet the object in both is to increase the sonority of the bass.

If the student will read over the explanation of overtones he will find a reference to the organ. It is a well-known fact that the tones of some organ pipes have the least audible overtones; this would ordinarily mean lack of sonority. Organ builders have overcome this deficiency by the introduction of devices by which the 5th and 12th are actually sounded simultaneously with every one of the lower tones. (On the larger organs even the 3d and minor 7th, the 4th and 6th overtones, are sounded by means of similar devices.) That these stops can only be used when the "full organ" is employed stands to reason, and it must also be understood that these stops emphasize the overtones only faintly, otherwise a confusion of sound would result, such as was illustrated in connection with the subject of overtones.

The study of the evolution of music, beginning with the ninth and tenth centuries A. D., permits of some interesting conclusions. Countless volumes have been written by musicians of every generation, dealing with every evolutionary phase of music; details have been brought to light which, linked together, provide an unbroken chain, proving the constantly changing viewpoint (what an irritating word that is! I am almost inclined to say "soundpoint"!) of the world of music. The changes which have taken place since the ninth century are truly astounding, but the impetus for the development was unquestionably given by nature. Nature created the human voice; the quality is either male or female, the difference in pitch that of an octave. The first song was the song of man; when the woman joined him, she sounded the first overtone, the octave. With the increasing range of the music sung, a subdivision took place, which created the characteristics which we have named Soprano, Alto, Tenor and Bass. What is the essential difference in pitch between Soprano and Alto, and between Tenor and Bass? The fifth:—the second overtone. What then was more natural than to sing in fifths? The use of the intervals of the octaves, fifths and fourths during the first period of our modern music becomes, therefore, self-explanatory. This form of composition was one of the varieties of the "organum". (The term "organum" has very little meaning except, perhaps, that the organ at that time, had become the principal supporting instrument for the voices.) Even to-day the musically unsophisticated will naturally accompany any melody in fifths; the observing musician will readily admit having heard such examples of diaphonic (two-part) singing as provided in the illustrations on pages 82 and 83. And again, if the unsophisticated person is asked to sing a tone lying outside of the range of his voice, he will, in nine cases out of ten, sing the fifth, either below or above. This is true of children as well as of adults. The sound of many voices, all talking or chanting at once, will reach us in the interval of a fifth; prayer responses in churches frequently sound like a tremolo on these tones:



A striking corroboration of these facts is found at the beginning of the second act of Puccini's "La Boheme". He has furnished a most realistic impression of a market scene, where men and women are crying out their wares, the simultaneous sound of the fifths predominating throughout. The short orchestral interlude to the act, with its characteristic triad progressions given out by three trumpets, immediately becomes comprehensible.

To sum up: My endeavor has been to prove that the rule forbidding parallel octaves and parallel fifths in four-part work is justifiable on the ground that these intervals are too strongly submerged in the sound of any lower tone,—they lack independent character;—hence a succession of such intervals in the same two voices negates the existence of one of them, which is contrary to the purpose for which they are employed, namely, to produce independent melodic motion.

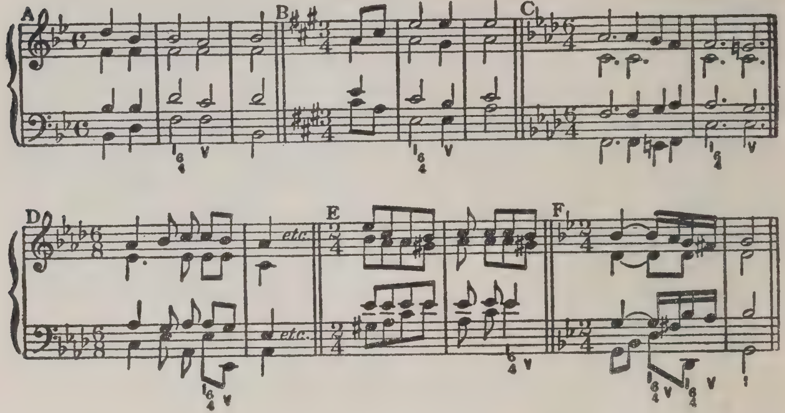
The following suggestions will be helpful to the beginner and while the restrictions may seem irksome they will, in the end, lead to freedom.

The first exercises will make use of only two chords, the tonic and the dominant. The Soprano which carries, at present, the melodic thought, may be written with a certain amount of freedom, i. e., even with limited means a melodic curve is possible, as the examples further on will prove.

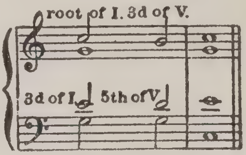
Avoid at present all unnecessary skips in the middle parts: in fact it may happen that either the alto or the tenor will retain the same tone throughout an exercise. This is by no means a fault: on the contrary, it will prove of benefit to the "sound" in general. The rule: Tones which chords have in common should be held over, particularly in the middle voices, is good and must be observed whenever practical. (The deciding factor will be whether "open" or "close" or a mixture of both positions is desirable.)

The bass has almost the same freedom of motion as the soprano. The strength of a bass part does not depend on the constant use of chord fundamentals but rather on the judicious distribution of all the positions. This demands a good deal of practice, but it will inevitably result in discriminating workmanship and ever-increasing power of imagination.

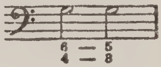
The comprehension of the character of the 2d inversions of triads is of particular importance. The I^6_4 chord is usually to be regarded as a double suspension of the V triad in root position and should be placed on a more important part of the measure than that of the succeeding V. The following examples will illustrate this point.



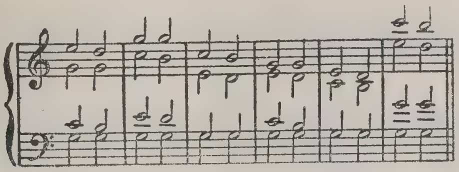
The suspension feature of the I^6_4 lies in the fact that the root of the tonic suspends the 3d of the dominant and the 3d of the tonic suspends the 5th of the dominant.



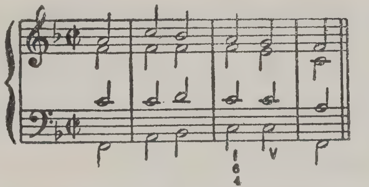
The composers who made use of "figured bass" would frequently indicate the suspension in the following way:



It was mentioned in the explanation of figured bass writing that a triad in root position does not have to be figured; consequently the second G as the root of V, could well dispense with the figures $^5_3$, but the composers wanted to make certain the understanding of the character of the preceding $^6_4$ inversion, hence the $^6_4$—$^5_3$. Needless to say, the distribution of the upper three voices is entirely dependent on the harmony preceding the $^6_4$. Besides the above resolution the following progressions are possible:

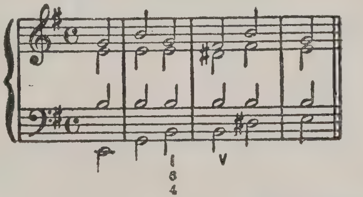


All the examples of this particular use of the I_4^6 given so far, prove that the chord is in reality a V in disguise. Yes, if an example like the following is played and analyzed by ear in a class of musical children,

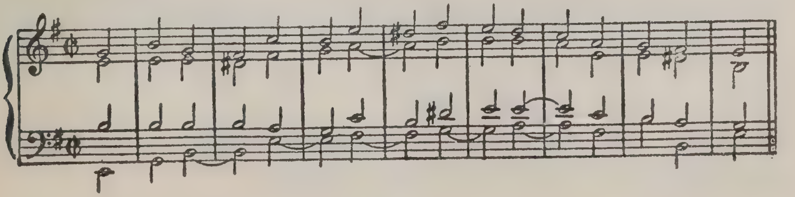


the I_4^6 will almost invariably be recognized as a dominant in anticipation of the progression into the latter.

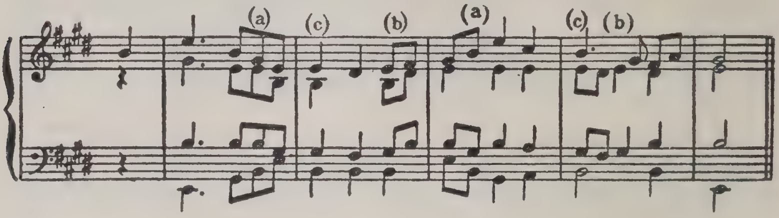
The I_4^6 chord may occasionally be met with on so-called unaccented parts of a measure.



Here the effect produced is that of an anticipation, which means that the bass tone B comes half a measure too soon, causing the feeling of "syncopation". A composer may want this effect, particularly if it is carried on with more or less consistency, like the following example:



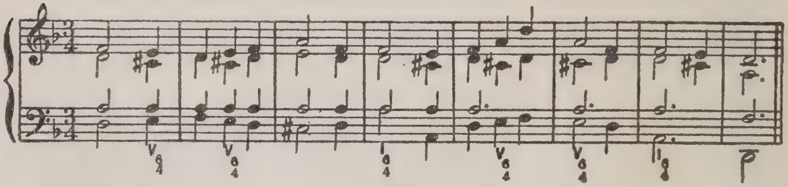
The I_4^6 also loses its significance as a suspension of V if used as part of a chord arpeggio, as indicated at (a).



The $^6_4$ positions at (b) are merely repetitions of those at (c); the latter are the only $^6_4$ positions of harmonic importance.

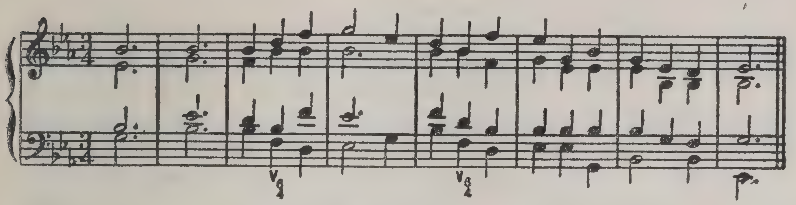
It must be noticed that in all the examples showing the use of I_4^6 as a double suspension of V on pages 86 and 87 **the tone doubled is not the root of the I, but the 5th.** This is of course correct. In the first place the fifth must be considered the anticipated root of the V, which makes it a root in reality, and furthermore, it is the only **harmonic** tone of the chord, the sixth and the fourth being **melodic**. Melodic tones which have a decided tendency of progression should, at present, not be doubled, as this might lead to parallel octaves; and even tho the octaves are avoided the sound of a chord with a doubled melodic tone, is unsatisfactory, the musical mind anticipating the possibility of such octaves. (Read over what was said in regard to a doubled leading-tone.)

The second inversion of V should be used as a passing chord, which means that it must be approached and left with **diatonic bass progression.**



The example explains itself.

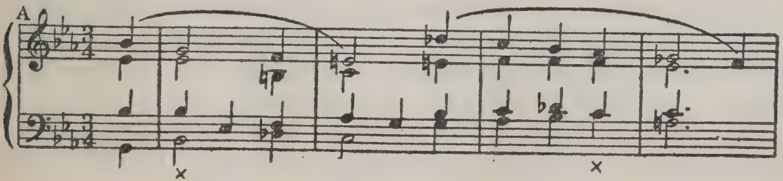
Skips into and away from a V_4^6 become possible if the underlying principle is that of chord arpeggio.

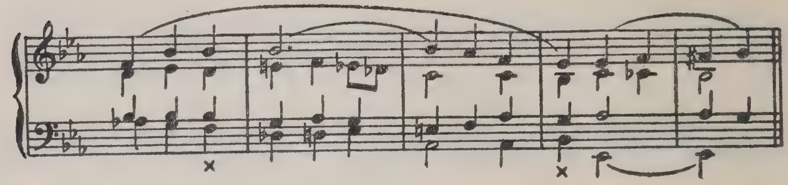


In addition to the use of the V^6_4 chord in the last example, it should be observed that the skips in the middle parts only occur when the harmony remains the same; where, however, I is followed by V or vice versa, skips are avoided.

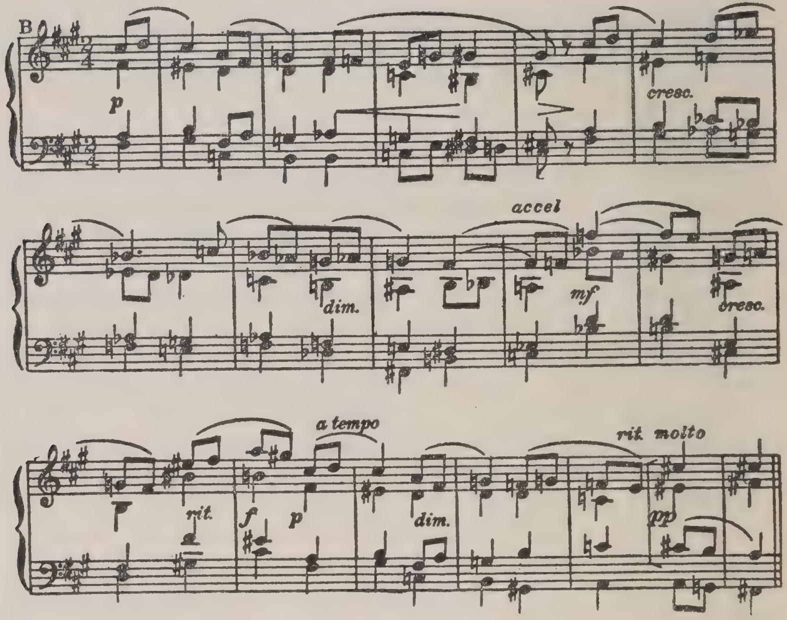
A general rule which governs the use of all $^6_4$ inversions, no matter which triad is concerned, may be remembered in the following words: The bass must never skip away from any $^6_4$ inversion. The succeeding chord must have the same bass tone as the preceding $^6_4$ inversion or the bass must move diatonically. In other words, never leave a $^6_4$ inversion by a skip in the bass.

(Besides the exceptions noted above I will mention an important one here, altho it does not concern our work for some time to come. All laws of voice-progression may be disregarded if the succeeding harmony is of sufficient interest to arrest the attention of the listener by its unexpectedness; or where the division of motives is particularly distinct, as for instance in sequences. It must be left to the teacher's discretion whether to go into a detailed analysis of the following examples—this will naturally depend on the student material with which he has to deal. The fact remains that the student is supposed to be acquainted with a good deal of musical literature far ahead of the kindergarten theories laid down for the beginner's study of harmony, and if the intelligent explanations of a teacher will help him, even now, to a fuller understanding of that literature which he plays on his instrument or listens to in the concert hall, his appreciation of the beauties of our art will certainly grow more quickly.



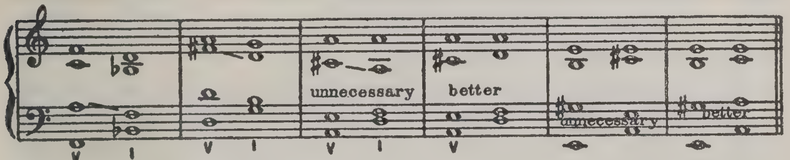


B

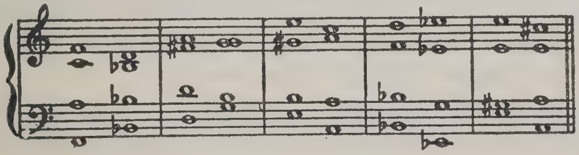


Ex. **A** contains a number of $^6_4$ inversions from which the bass skips. None of these are objectionable on account of the more or less foreign sound of the succeeding harmony. Ex. **B** contains various awkward intervals, even parallel fifths and octaves, but closer examination will show that the voice-leading within every single motive is in good taste. Between motives the rules of good voice-leading have been almost entirely disregarded, yet the divisions are so distinct that the musical mind follows the melodic structure of the motives individually rather than connectedly. If the student will play each voice separately, he may get a good deal of amusement out of listening to the unbeautiful interval progressions, but even the wildest melodic gyrations can be made to serve harmonic purposes, as the playing of the combined voices unquestionably proves.)

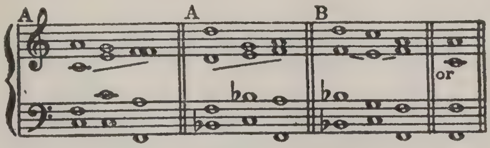
If the leading-tone of the scale is part of a dominant harmony and the succeeding harmony contains the tonic as one of its intervals, the leading-tone usually moves upward. If, however, the leading-tone, as part of V, happens to be in one of the middle voices, it may drop into the fifth of the tonic.



The following progressions are of course correct and good because the fifth of a chord may be omitted; by doing so the voice-leading takes precedence over the sound of the harmony.



Generally speaking, it may be remembered that if the leading-tone is approached from below, it is usually best to lead it upward (A); if it is approached from above, it may either ascend or drop into the fifth of the tonic (B).



The leading of the alto at A is rather insistent and demands the tonic. At B the leading-tone is approached from above; the half step has already taken place, altho downward; this is sufficient reason for disregarding its upward tendency and the subsequent leading may be either upward or downward.

CHAPTER VI

THE USE OF TONIC AND DOMINANT TRIADS.

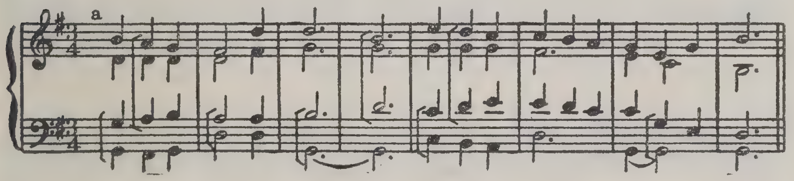
The student should now be ready to begin the writing of four-part exercises. The work consists of learning to apply the tonic and dominant chords for the harmonizations of little melodic thoughts. It stands to reason that nothing of great interest can be invented with this restricted material, yet more variety is possible than one is inclined to think, and this will be proven as the work advances.

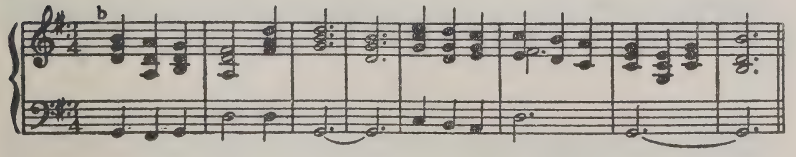
The main object to be borne in mind is to learn the leading of the voices. If the principles involved are once mastered they can be applied to every succeeding lesson. As far as the "difficulties of setting" are concerned they will never increase. The new difficulties to be encountered are in the application of each new harmony introduced—to find its logical place in the melodic thought. The student should avoid too frequent use of the keys of C major and A minor. The more variety in the choice of keys, the greater the musical and mental benefit. Remember! One key is no more "difficult" than another.

Before writing an exercise, the harmonic contents of a key should be visualized and placed above the staff in the following manner. Supposing the key chosen is D major, the diagram will show the relation of the harmonies $\mathrlap{\overbrace{}^{\text{tonic}}}d\quad f\sharp\quad \underbrace{a\quad c\sharp\quad e}_{\text{dom.}}$, or if the key is F minor: $\mathrlap{\overbrace{}^{\text{tonic}}}f\quad a\flat\quad \underbrace{c\quad e\natural\quad g}_{\text{dom.}}.$

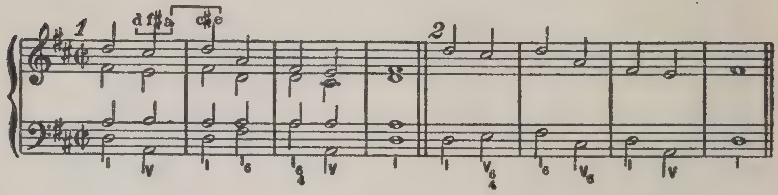
It must be fully understood that the V triad in minor keys is at present only to be used in its major form, i. e., the V in minor uses for its third the raised seventh of the scale. The above diagram shows that a melodic thought conceived in D major can for present purposes make use only of the tones D, F♯, A, C♯, E. Whenever the tone D or F♯ occurs in the melody, the underlying harmony must be the tonic; if the tone C♯ or E occurs the harmony must be the dominant. The tone A may be harmonized with either tonic or dominant harmony. The foregoing is applicable to any key. (Whether capital and small letters are used, distinguishing major from minor, is of little importance; sound must tell—not letters!) It must be observed that, in order to distinguish the four voices, the stems of the notes of the soprano part must be turned upward, always on the right hand side of the note; those of the alto downward, on the left hand side; tenor stems up; bass-part stems down. This will also help considerably in the appreciation of correct and musical leading. The sound of a chord must be the outcome of voice-leading! Neither should the student try to make the examples particularly pianistic—he is not writing for the piano. The use of that instrument is only a means to an end. The appreciation of the foregoing suggestions will materially aid him in acquiring a pianistic technic, paradoxical as this statement may sound. All great pianists are guided in their interpretations principally by the thought of making clear to the listener the weaving of the voices under their fingers; they may be termed "contrapuntal players", the true musicians among their many brethren!

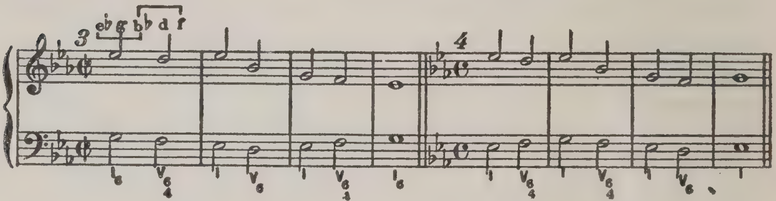
For the sake of illustrating this point the following example is appended:

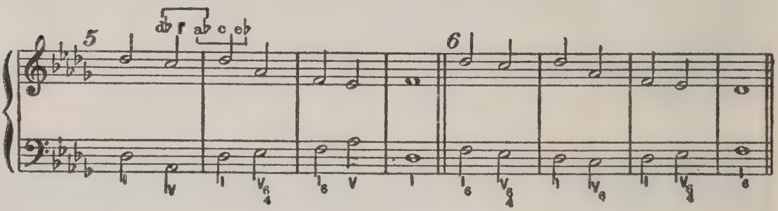


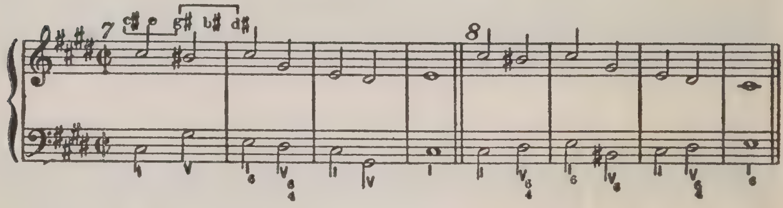


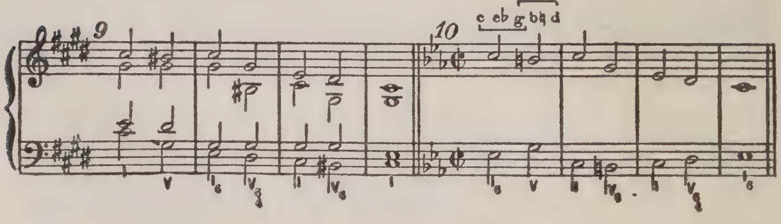
Example **a** is written for four voices and is to be played as indicated by brackets; **b** illustrates the setting of the same example for piano. While both settings are correct, the first one sounds better even on the piano on account of greater freedom in voice leading.

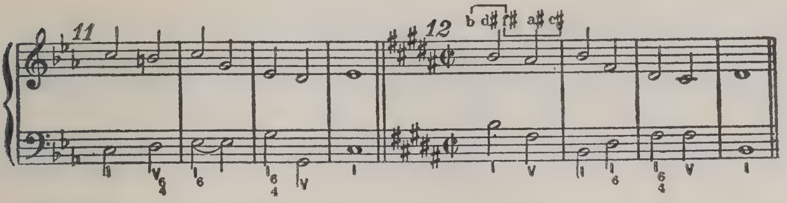

1
d f# a
c# e
2


3
eb g bb d f
4


5
db f ab c eb
6

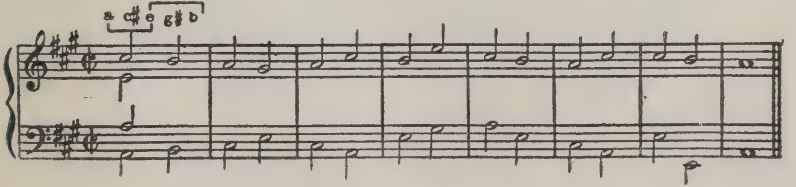

7
c# e g# b# d#
8

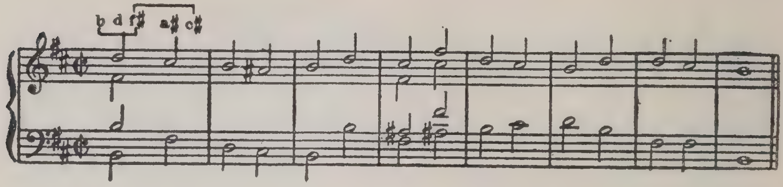

9
10
c eb g b♮ d

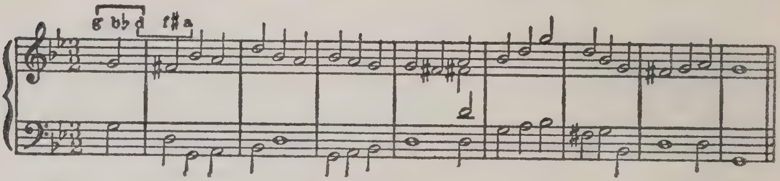


Lesson: Add the middle voices to these examples;—remember to avoid all unnecessary skips. The student will readily observe the great variety possible with the limited material at his disposal—also that the twelve exercises contain the same melodic thought, sometimes in major, sometimes in minor. As a matter of fact all of them are interchangeable as to mode, i. e., the ones in major may just as well be played in minor and vice versa. I have set No. 1 to show how the work should be done. No. 9 presents some problems which may confront the student at any time. Beginning with a C♯ min. tonic in close position the skip in the tenor becomes necessary, because if the tenor went to C♯ in the second measure parallel octaves would result between it and the soprano leading into the second chord of measure two. The skip from G♯ to B♯ in the alto in the second measure is unobjectionable because it occurs between two motives. After the student has worked out this set of exercises and they have been corrected he should **try to transpose some of them on the piano at sight.** This suggestion should be followed throughout the entire study of harmony—it will produce ease of thought in any key.

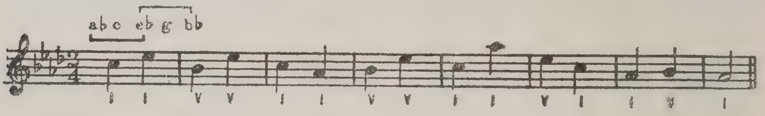
The next examples differ from the first only in their length; two phrases are formed into what is commonly called a musical sentence or period. The figuring is omitted, but the student must supply it before he adds the middle voices.

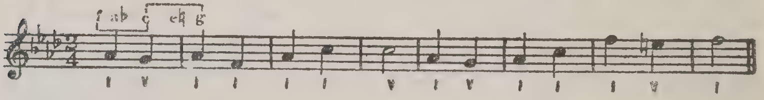


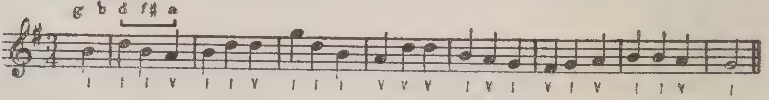




The work so far has been comparatively easy; it becomes a little more difficult when only the soprano part is given. The harmonization is indicated, but not the choice of bass tones. In other words, the setting is left almost entirely to the student.







(Where only one voice is given, the stems attached to the notes are subject to the following rule: Notes above the third line have the stem on the left side, turned down; notes below the third line have the stem on the right side, turned up; notes on the third line may have the stem on either side. I mention this rule here, altho the student writing four-part exercises cannot possibly observe it. (I have already told how the exercises should look.) Those young musicians who have talent for composition have to be able to present a manuscript which is not only readable, but correctly written according to the engraver's or printer's standard. The publisher to whom manuscripts are submitted can usually tell at a glance whether he has to deal with a novice or an experienced composer and his judgment is apt to be influenced thereby. To learn how to put music on paper study constantly the "best editions"; it will help to solve many perplexing problems of "notation".)

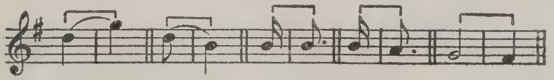
Lesson: Here the student should try inventing some material of his own, observing the same simplicity of construction as in the examples furnished so far. About three examples in major and three in minor ought to be sufficient.

The next step will lead to the introduction of greater rhythmic variety; and it may not be amiss to say a few words about melodic construction. This subject can here only be mentioned within narrow limits, because our study of harmony must be based on short melodic ideas, whose harmonic contents must conform to the lesson in question, that is: they must contain the new harmony with which the student is to acquaint himself. Furthermore: it is rarely possible to invent thoughts of more than eight measures in length without resorting to modulation or other interesting harmonic devices which may only be introduced with the logical development of the course of study.

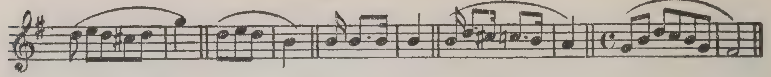
The terms "rhythm" and "accent" have been defined to some extent in Chapter I. If a musical period is solely composed of tones of equal time values (all whole, or all half, or all quarter notes) it lacks vitality. Its "life" depends on a variety of values; but this variety must not be haphazard: it must be governed by the laws of proportion.

A period is composed of motives and phrases.

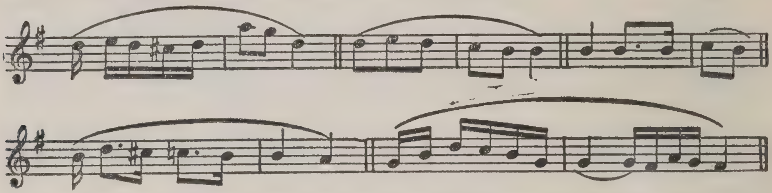
A motive is the shortest musical expression; it is constructed of at least two tones of which the first is usually **restless** (also called unaccented) and is followed by a **point of repose** (accent). The first part of a motive, such as shown here,



is called an upbeat, because the conductor indicates it by an upward arm motion; the second part, falling on the first beat of a measure, is called a downbeat—for obvious reasons. The "upbeat" may consist of a number of tones:

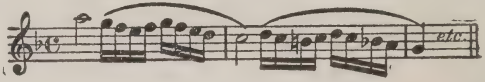


(Nowadays the term "upbeat" is applied to the first part of any motive, no matter how many tones or "beats" it contains. Neither is the second part of a motive restricted to a single tone; it may be embellished like the first.)

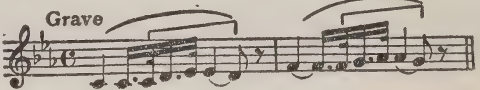


A motive seldom begins on the first beat of a measure; if it apparently does so the "upbeat" has simply been omitted.

This motive from Beethoven's Violin Sonata No. 5 is a case

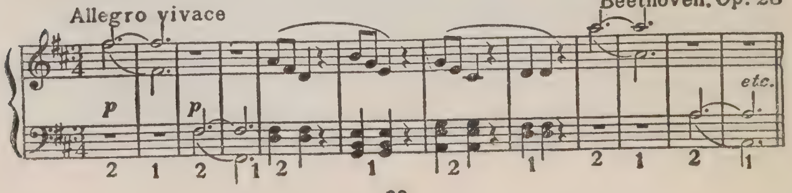


in point. Throughout this movement the half-note is preceded by an "upbeat" of 16ths, except at the beginning. Another good illustration is furnished by his Sonata for Piano, op. 13.

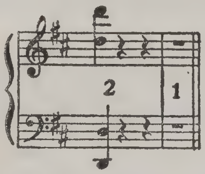


Examples like these are so numerous that it is useless to cite any more; the student must investigate and learn to distinguish the motive material in every composition he plays and must be conscious of it in his own writings. Tempo also influences the construction of motives. When fast tempi are indicated, as is the case in many scherzo movements, the measures must be regarded as single beats, or in other words they are only subdivisions of larger units.

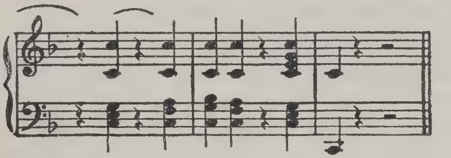
Beethoven. Op. 28



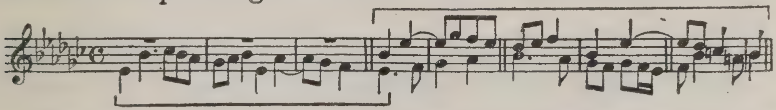
If the student will play this movement, bearing in mind that first measure is an upbeat to the second, its construction will become clearer both to him and to the listener; it will also make possible the understanding of the rest at the end of the main movement, which produces effect of an "upbeat" followed by a silent downbeat:



One more example of similar effects—the upbeat leading into a rest, which is of course also the principle of syncopation.

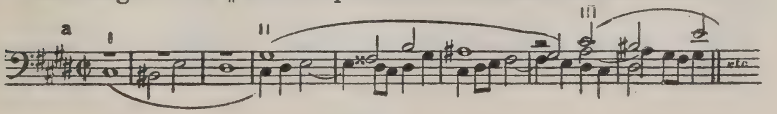


A "phrase" consists of a succession of motives, ending on a point of greater repose than any contained in the motives. Phrases are usually two or four or even eight measures in length, dependent on time and tempo. Irregular formations are quite common, particularly in contrapuntal music, where the entrance of thematic material frequently shifts the points of repose. Bach's Well-tempered Clavichord furnishes innumerable examples of irregularity, particularly in the Fugues where the "anticipated" entrance of a new voice demands a reconsideration of the phrasing:

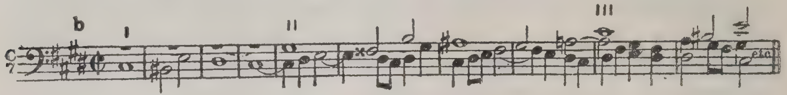


The entrance of the soprano on the closing tone of the theme in the alto really demands that the bars should be shifted as indicated by the double lines.

The Fugue in C♯ minor presents a similar illustration.

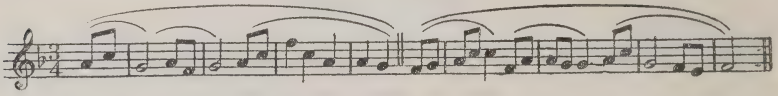


If Bach had wanted regularity he might have written:

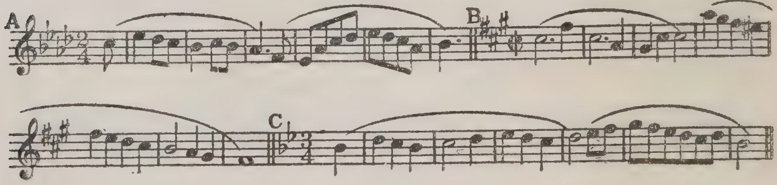


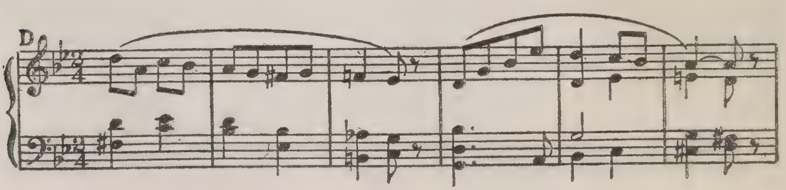
but the rhythmic charm undoubtedly lies in the condensation of the thematic material into three-measure phrases instead of four-measure, as at **b.**

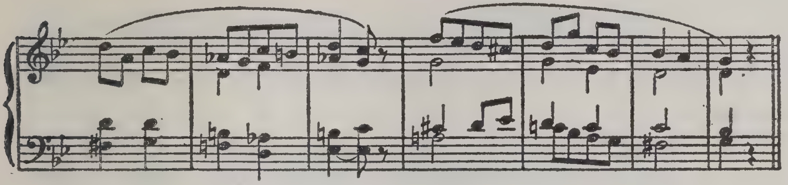
Similarity of rhythm in motives makes for homogeneity and is therefore desirable.



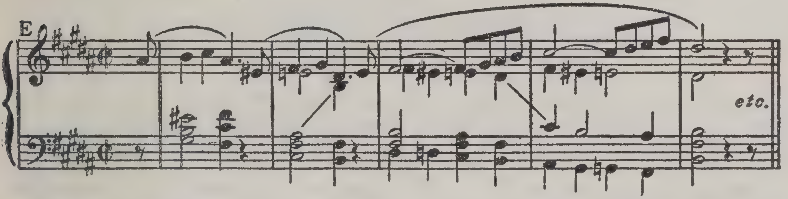
The first two motives are similar; the third is twice as long and brings the phrase to a point of repose, the second phrase beginning with the upbeat in the fourth measure and constructed along the same lines. The student should also observe that the last measure contains only two quarter beats—the upbeat at the beginning complements it. This example shows the construction of a complete **period** or **sentence** such as is desirable for most of the future illustrations. It is composed of two phrases of four measures each, this being the most common form. The following examples illustrate periods composed of phrases of different length; they are less common, but the student will meet them once in a while.







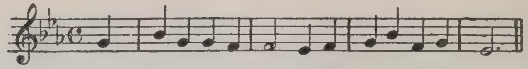
E



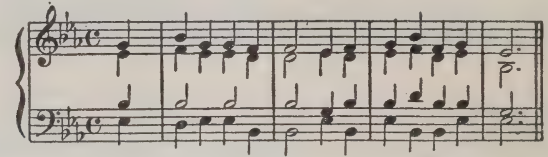
Ex. **A** consists of two three-measure phrases, **B** of one three- and one four-measure phrase, **C** of one four- and one two-measure phrase, **D** contains three three- and one four-measure phrases and the phrase at **E** consists of five measures.

In order that the student may gain some facility in writing little melodies of eight measures in length, he might choose short poems for "setting". Such word-material he can find in any public school music book. He must remember that accented words or accented syllables should fall on accented parts of a measure; this will assure correct metric construction and teach him where to place the bar lines. But words are more or less like crutches and should be abandoned as soon as he has gained sufficient confidence in his feeling for correct notation; rhythmic variety is much greater in music than in poetry. Those who are sufficiently experienced in practical music will derive much benefit from studying such books as Goetschius' "Melody Writing", and others. For our present needs the development of ability to invent simple periods suffices. As I have pointed out before, the greatest difficulty one may encounter lies in the necessity of illustrating the particular lesson-material; this can only be overcome by studying the examples which I have provided.

The problem which is most confusing to the student when he begins to invent his own material is that of melodic tones. He may, for instance, invent a melody like the following, which is written in order to show the use of I and V chords; it looks right and sounds well.

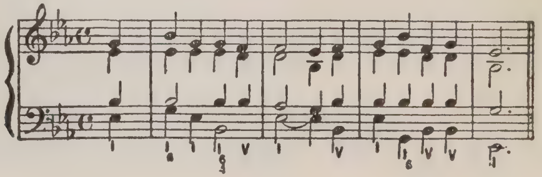


But when he adds the harmonies it becomes clumsy and awkward.

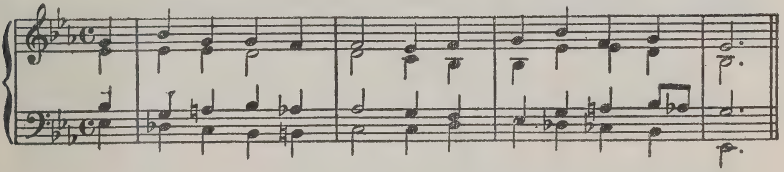


Now, where are the faults? Knowledge of rules will help but little here. Unless an intuitive feeling for that which sounds well is present, his case can only be set down as "lack of talent". "That which sounds well" is "inculcated" by observant listening to the music of our masters.

Yet it is possible to provide a little guidance. The most important point to remember is that if a change of harmony takes place it should be made from a point of unrest (unaccented beat) into a point of rest (accented beat). In the above example the V chord is used on both the last beat of measure one and the first two beats of measure two, producing the type of phrase-ending known as "feminine". In measure three the V chord on the second beat is repeated on the third beat which, here, is very weak; and a worse weakness is found in the harmonization of the fourth beat of the same measure, which is altogether out of place. In spite of the fact that the G in the soprano is part of the I harmony, the harmonization calls for a V, because it is almost invariably best that the final point of repose be preceded by a harmony other than its own. The following harmonization of this same phrase is better, altho it contains material which is in advance of our present work; for it is much better that the student let himself be guided by his intuitive feeling for the more satisfactory sound than merely write correctly.

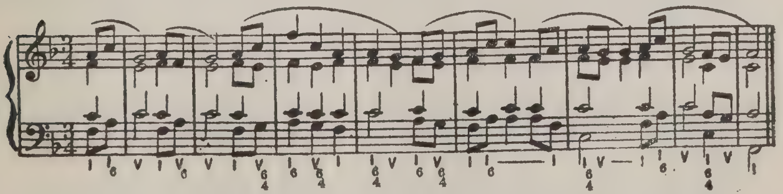


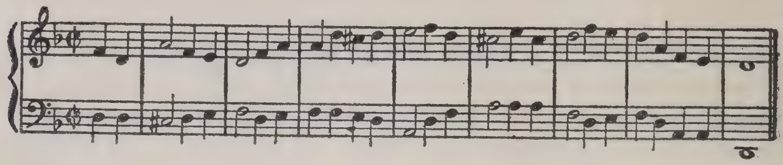
The I_4^6 in measure one is a suspension of the following V, as explained a little while ago—the upper three voices in the first chord of measure two form suspensions of the I. At the end of measure three the G in the soprano is a substitute tone for F—the effect of the chord is that of a dominant. It will not be difficult to acknowledge that the second harmonization sounds much better than the first, and the phrase permits of a great many other treatments, altho not with the present material. (The experienced musician might, for instance, hear the following, as one of many possibilities.)

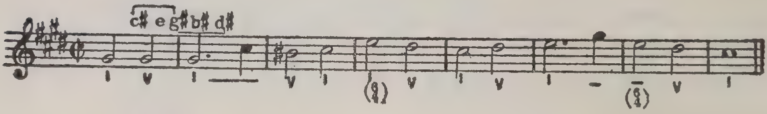


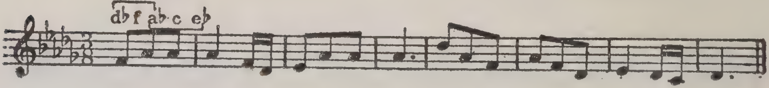
After all, the teacher's guiding mind must help to overcome every real and imaginary difficulty. If my students, in whose talent I have confidence, occasionally introduce harmonies outside the material called for, and do so intelligently, I do not find fault with them. If, however, by such liberties, the real issue of the lesson becomes obscure or these outside chords are used badly, then a restraining word or two will usually be sufficient to make them realize the inadvisability of such license. The first of the following examples shows the setting of some of those periods which were analyzed in the preceding explanations on phrasing.

Lesson: The student should add a few examples of his own invention.


I I6 V I V6 V I V6/4 I6 V6/4 I I6/4 V I6 V6/4 I I6 — I I6/4 V — I I6 V I6/4 V I




c♯ e g♯ b♯ d♯
I V I V I (6/4) V I V I (6/4) V I


d♭ f a♭ c e♭

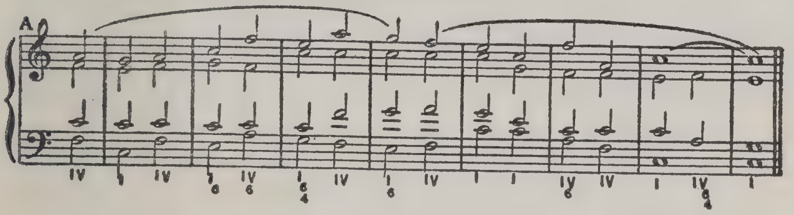
CHAPTER VII

THE SUBDOMINANT

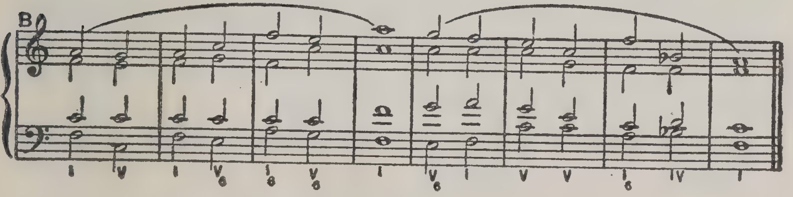
The third important element in the tonality is the subdominant. F A C E G B D It will readily be seen that the relation of the I to the IV is that of a V. This fact has a distinct bearing on some of the rules which govern the progression from I into IV and vice versa.

A progression of chords like the following might prove ambiguous unless phrased distinctly.

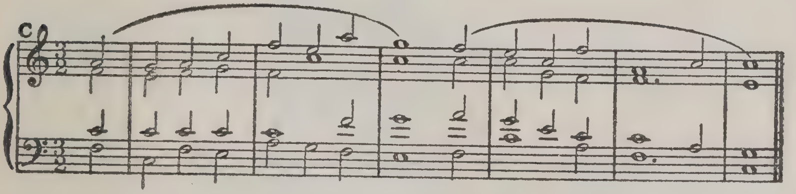
A


IV
I
IV
I 6
IV 6
I 6 4
IV
I 6
IV
I
I
IV 6
IV
I
IV 6 4
I

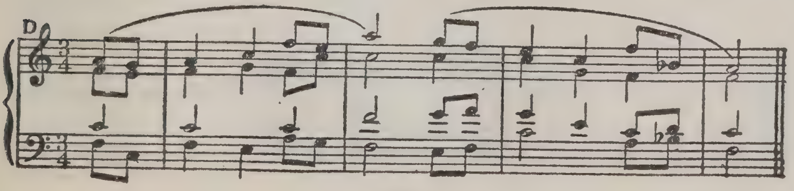
B


I
V
I
V 6
I 6
V 6
I
V 6
I
V
V
I 6
IV
I

C



D

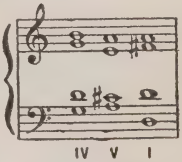


Example **A** produces a feeling of uncertainty—neither quite C maj. nor F maj.—but, on account of C maj. harmonies on the point of repose, the C maj. key is perhaps the more prominent. There can be no question but that the tonality at **B** is F maj.—yet the chords are exactly the same as in Ex. **A**, with the exception of the B♭ maj. chord, used as IV in the seventh measure. Examples **C** and **D** are rhythmic variants, without change of chords, of **A** and **B**, producing effects of C and F maj. respectively. The difference in tonalities will be felt even more if these examples are played in different keys.

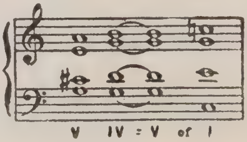
It should be remembered that I^6_4 when placed between two IV chords, assumes the character of a V^6_4 placed between two I chords. The IV^6_4 frequently sounds like a suspension of I in root position. A close analysis of the foregoing examples will prove these points.

The elements of IV and V are antagonistic; they can only be reconciled through the tonic. The triads on IV and V have not even a single tone in common to neutralize this antagonism—hence, a progression from a subdominant chord to a dominant is "unnatural" as compared with the progressions from V to I or from I to IV. Yet it is this antagonism which has given the evolution of harmony that impetus which has gradually led to the ruthless juxtaposition (the principle of all interesting chord progression) of any combinations of tones.

A progression from IV to V is particularly effective because V demands the reconciliatory sound of the I, thus strengthening the feeling of tonality.



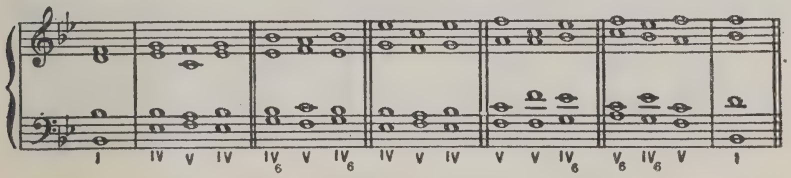
On the other hand, a progression from V into IV calls less strongly for the tonic, because the major triad on IV may rightfully assume dominant character, hence calling for a different tonic, thus lessening the feeling of tonality.



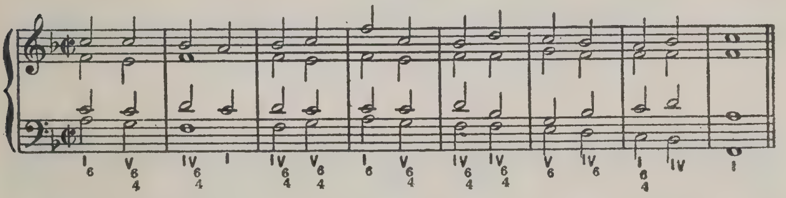
There is, of course,

no sense in forbidding progression from any one chord into another, particularly if this progression is the result of rational voice-leading; only, the student must learn to discriminate as to logical employment of such progressions. As he learns to listen more and more intelligently, his powers of discrimination will increase.

If the laws of good voice-progression have been observed in going from a subdominant chord to a dominant, this same progression may be reversed, as the next few illustrations will prove.



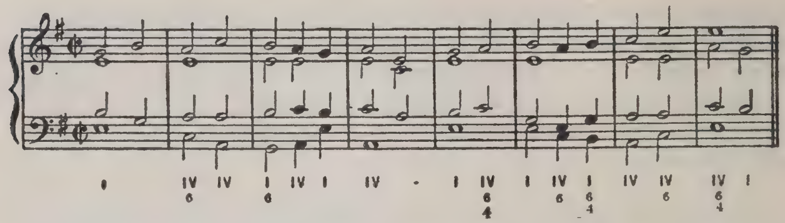
Even $\frac{6}{4}$ positions of V and IV may follow each other:



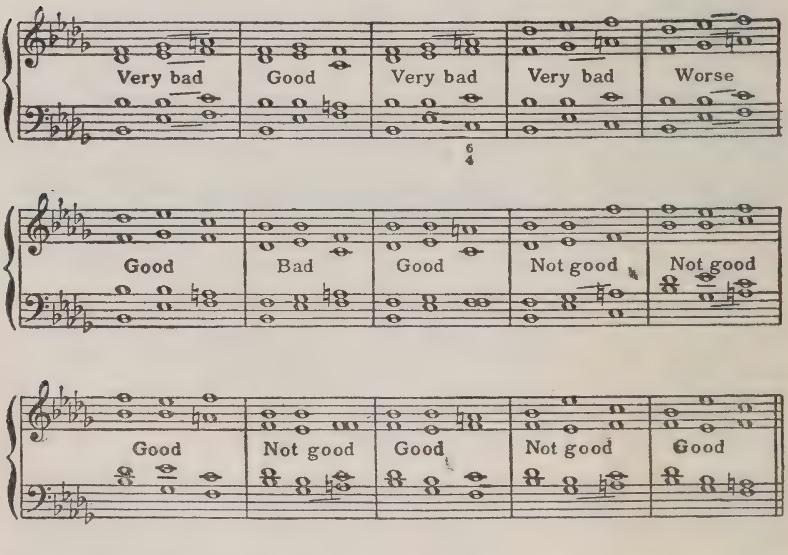
The student will note that the rule concerning $\frac{6}{4}$ positions, mentioned in a previous chapter, has been complied with, namely, diatonic bass progression or retention of the bass tone.

These last examples lay no claim to musical beauty; they are simply to be regarded as possibilities.

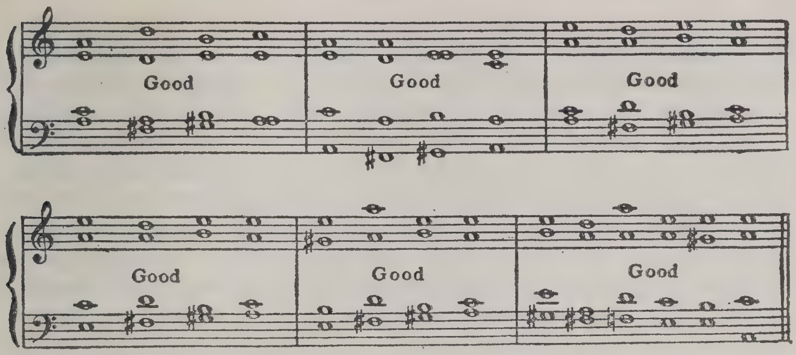
In minor keys the relationship of the chords I, IV and V is somewhat different. In the first place, the minor I is not really V to the IV, because a true V must be major; nevertheless progressions from I to IV or IV to I are treated as if the relationship existed and the rules given for the use of these progressions in major keys hold good in minor. (This disregard of acoustic conditions supplies one of the interesting sound qualities to the minor key, so "dearly loved" by amateurs.)


I
IV 6
IV
I 6
IV
I
IV
-
I
IV 6 4
I
IV 6
I 6 4
IV
IV 6
IV 6 4
I

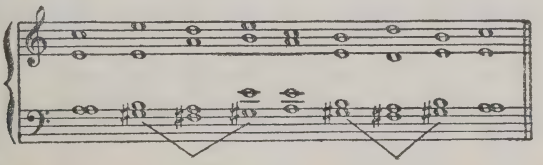
If progression takes place from IV to V or from V to IV an additional difficulty is encountered, i. e., the avoidance of the augmented second from the 6th to the 7th degrees of the scale; the former represents the third of IV, the latter the third of V. The reasons for the awkwardness of this step have been fully explained in the chapter on scales, and it is absolutely necessary for the student to learn to avoid it.


Very bad
Good
Very bad
6 4
Very bad
Worse
Good
Bad
Good
Not good
Not good
Good
Not good
Good
Not good
Good

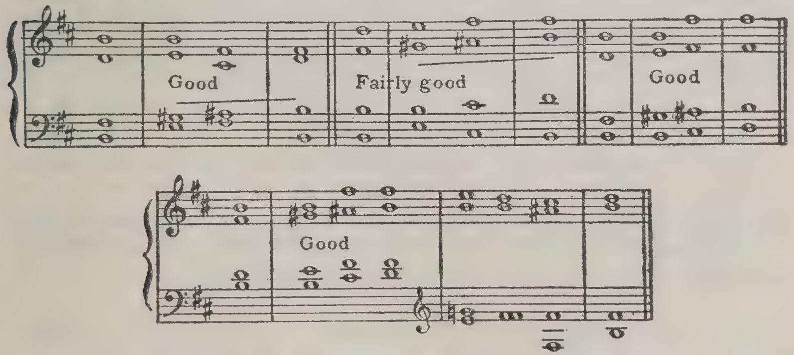
The student should also play these progressions in reverse order: those marked "good" will remain so, and those marked "bad" will still be bad. In some cases the substitution of the melodic form of the minor scale will prove acceptable, particularly where the 6th and 7th are used in the bass, ascending.



The last example shows the raised 7th and 6th **descending,** but this is acceptable only when the raised 6th is followed by the natural 6th, or if it is, again, succeeded by the raised seventh.



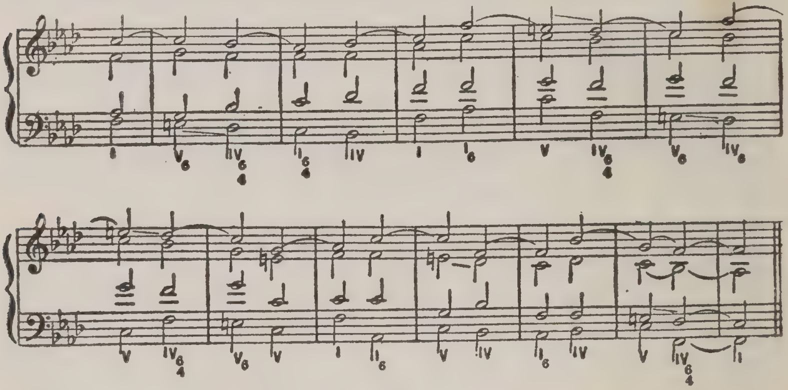
Even in the middle parts the raised 6th of the scale may be used occasionally if the aug. 2d can thereby be avoided.



Listen carefully to the leading of that voice which contains the 6th and 7th steps. With our present means, nothing of value can be derived from the use of the 6th and 7th steps in the soprano. Later on when the V may be a minor triad other leadings become possible.

At present the student should bear in mind: In minor keys the I and IV are first of all minor triads, the V always major. Avoid the step between the 6th and 7th degrees of the scale upward or downward in the soprano. This rule applies to major as well as minor keys. (There is no objection to using these steps in major in any of the other voices, which can be easily proven if the above examples in A minor are played in A major and those in B minor in B major.) In minor keys these steps may be used only occasionally, because by raising the 6th step of the scale the IV is made a major triad, whereas the minor IV should have the preference; therefore, regard the above examples in minor as exceptions.

The augmented 2d may be used if the two tones belong to different motives, but even this exception should at present be made use of sparingly.



In this example the aug. 2d will be found in every voice and, if the motive divisions are borne in mind, there can be no objection to its use—even the fifths in the last measure but one are acceptable because the IV^6_4 sounds like an anticipated tonic—the chord having principally melodic value.

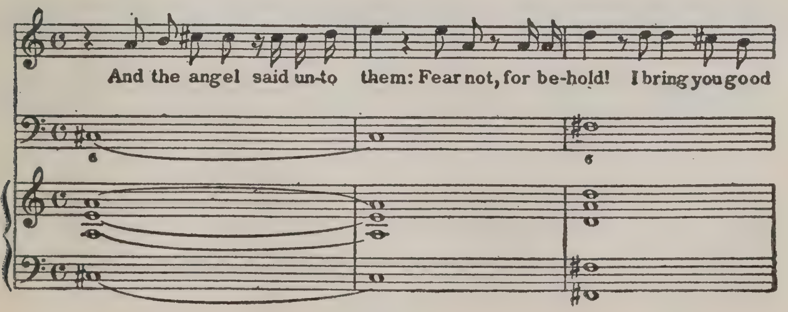
CADENCES

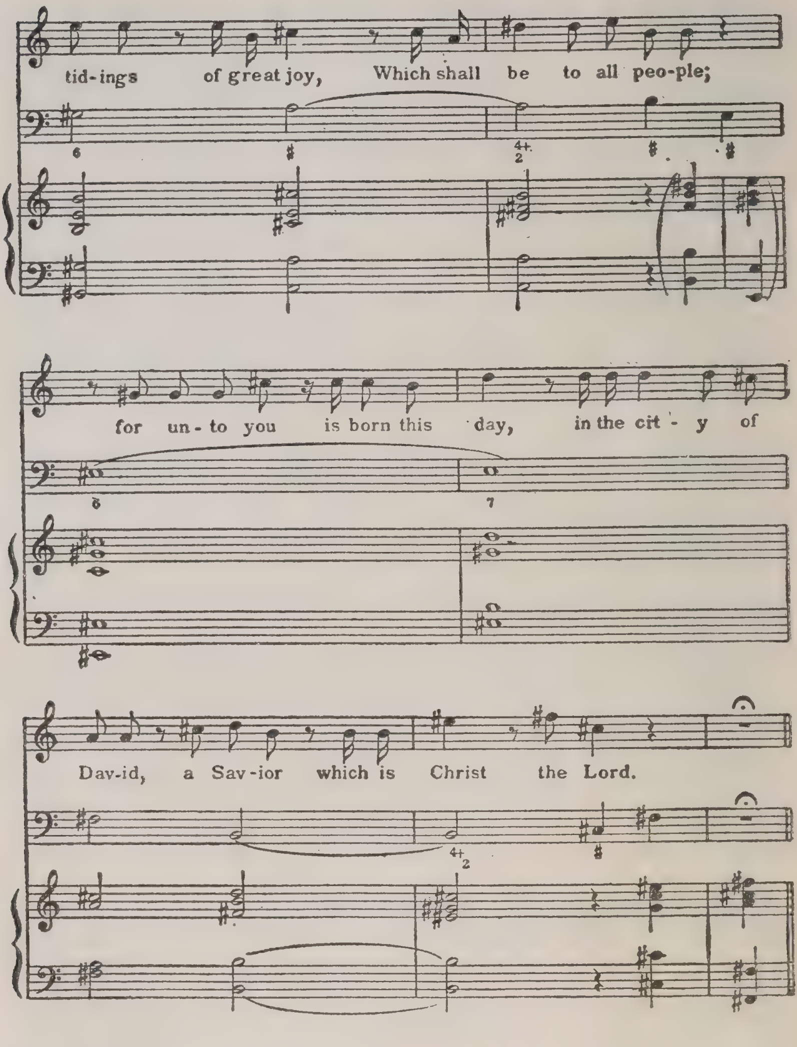
The word is derived from the Latin word cado—to fall, to drop. Its significance in regard to music is easily comprehended and, while there are no records available as to its earliest application, it may readily be assumed that its use antedates the writings of even the ancient theorists of the Grecian music era.

Cadences in music are the equivalent of punctuation in written language. This comparison accounts for the fall (and rise) in the inflection of the human voice, whether speaking or singing, as a means of expression by division and emphasis. The little embellishments and flourishes with which the priests divided and ended their incantations and supplications to the gods evidently formed the prototypes of all cadences in music and the chanting of the scriptures by the priests and ministers of the Christian churches is but the imitation of this ancient custom. There is no doubt that these cadences were taught to the priests who received their musical education at the singing schools founded in Rome by Pope Hilarius during the 5th Century, and later on in the schools which Charlemagne inaugurated in St. Gall and Metz about the year 800.

Cadences soon became distinguishing features of the different tonalities based on the church modes; and this fact, once clearly understood, gave them an importance which even modern music still recognizes as vital. Yet their importance as a melodic factor has shifted to certain harmonic progressions, due, of course, to the evolution of music from the monodic to the polyphonic form of expression; even such terms as authentic and plagal, while to-day indicating certain chord progressions, prove their melodic origin. (See chapter on scales.)

Cadences, in a harmonic sense, were at first regarded as "additions"; they did not really form an integral part of the phrase or period. This is particularly true of the authentic cadences as used during the recitatives of the older oratorios and operas. An **authentic cadence** is composed of the chord progression V—I and the appended recitative from Handel's Messiah illustrates perfectly its use as a musical punctuation.


And the angel said un-to them: Fear not, for be-hold! I bring you good
6
6


tid-ings of great joy, Which shall be to all peo-ple;
6
♯
4+
2
♯
♯
for un-to you is born this day, in the cit-y of
6
7
Dav-id, a Sav-ior which is Christ the Lord.
4+
2
♯

Examples like the foregoing are to be met with in compositions as late as the middle of the 19th Century and only the growing dislike for the conventional has brought this form of cadencing into disuse.

The **plagal cadence**, in its simplest form, is a progression from IV to I. The fact of its being an addition or a punctuation is very readily recognized, inasmuch as it was and is used in church music, almost always, independently of the main musical thought;—it is known as the conventional "Amen" cadence. All music of the pre-classic period furnishes numberless examples of this kind. Take for instance, Bach's Well-tempered Clavichord; almost every Prelude and Fugue has a short coda, of a few measures, built on a tonic pedal-point, in form of an enlarged plagal cadence.

There can be no doubt, and the history of musical evolution proves it, that the first conscious recognition of chords, as independent harmonies, took place in the endings of musical periods and was most outspoken at the conclusion of the various movements. But, from being merely additions, these endings or cadences became incorporated in the musical thoughts themselves. No matter how independent the voice-leading, no matter how uncertain the tonality had been, the cadence had to prove the key by a succession of well defined harmonies. And that is the object of the cadences even in the music of to-day. We may safely say that "harmony", as a distinctive part of musical theory, originated in the cadence. Two chords are, however, insufficient to prove a certain key because the progression V to I may produce the impression of I to IV, or the progression IV to I that of I to V. In order to eliminate uncertainty, all the tones of a scale must be represented in the cadential harmonies; this is the case where the triads on IV, V, and I are present. f a c e g b d or d f a c e g♯ b. We are therefore justified in saying that a **complete cadence** consists of a progression of the chords IV, V, I or representatives thereof.

This leads to the recognition of this vital harmonic truth: Every combination of tones, so far as it forms recognized chords, must be regarded as a representative of either a subdominant, a dominant or a tonic. This truth will manifest itself more clearly as the study of the various chords unfolds their character.

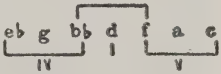
Another important succession of chords is the so-called **extended cadence.** A cadence is called extended when one or more harmonies are placed between the subdominant and dominant chords. The **extended cadence** that lies within the possibilities of our present material consists of the chords IV, I^6_4, V, I. The extension is represented by the I^6_4 chord as a suspension of the V. (See the explanation of I^6_4 given previously.)

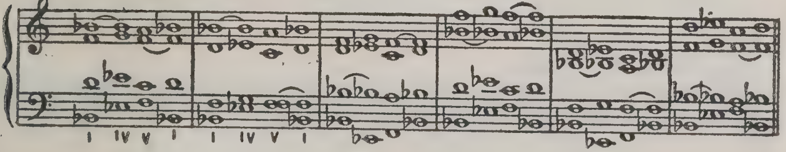
Before outlining the work to be done in connection with cadences, an explanation of the meaning of the term **Cadenza** is opportune. A cadenza may consist of a series of embellishments, interrupting the rhythmic flow of any phrase. These embellishments, principally of melodic character, may be introduced on any beat of a measure and may be based on any harmony; their length is determined by the composer's fancy, which, in turn, must be governed by sense of proportion and good taste. Musical literature—instrumental as well as vocal—furnishes innumerable examples.

The cadenza of a concerto for piano or violin, or for any instrument treated as a solo part is to be regarded in an entirely different way. Custom decreed that the interpreter of a solo part of a concerto should be given an opportunity to exhibit the possibilities of his instrument and his own cleverness as a musicianly performer, free from the fetters of the orchestra. This opportunity was given in the final cadence of a movement, the orchestra coming to a "hold" or "fermata" on the I^6_4. The soloist then improvised a composition called a cadenza, choosing the musical material contained in the movement for this improvisation, constantly bearing in mind the fact that this "cadenza" was simply part of an extended cadence finally leading into the dominant, followed, in turn, by the tonic. In the cadenza he was at liberty to modulate into any key and to give free rein to his own imagination. But, of course, a cadence within the cadenza, in the key in which the concerto was written, was out of the question: it would immediately have resolved the I^6_4 into the V, lifting the "suspense", and thus defeating the object of the "extension". Seldom does a soloist improvise a cadenza, nowadays; it is the product of earnest thought, and while some performers are able to compose a cadenza which fits their own requirements and individuality, others choose those composed by sterling musicians. The best cadenzas written for the piano concertos of the classical period are by Carl Reinecke, while Joachim wrote the best cadenzas for the violin concertos. The modern composer of concertos does not leave the writing of the cadenzas to others—he supplies them himself and, furthermore, they are interpolated wherever his fancy dictates, usually at the end of the development period; neither are they based any longer on a I^6_4 chord—in short they have lost their true significance—i. e., part of an extended cadence.

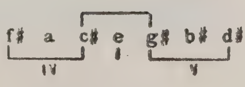
Inasmuch as the cadences are the strongest expression of the tonality, the leading of the voices in four-part writing must be of the purest. The student must bear in mind while writing or playing them: All harmonies to be used in root position, except of course the I^6_4 in the extended cadence. The root of the triad is the only tone which may be doubled, except in the I^6_4, where the fifth must be doubled. The tones which the chords have in common must be held in the same voice. If these rules are observed, the writing of cadences becomes a mere mechanical exercise, because the student will soon find that the upper three voices are interchangeable; in fact they are written in triple counterpoint, but the bass must remain the same in all cadences. Any correctly written cadence permits of five changes, or, in other words, there are six possible positions, as the next examples will prove.

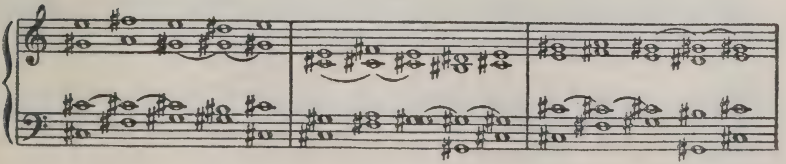
Complete cadences in B♭ major:

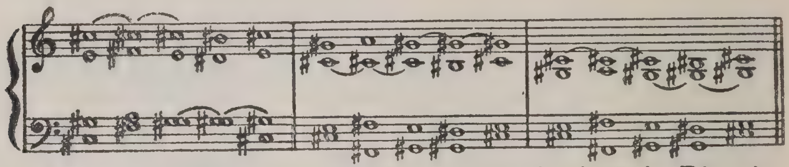




Extended cadences in C♯ minor:







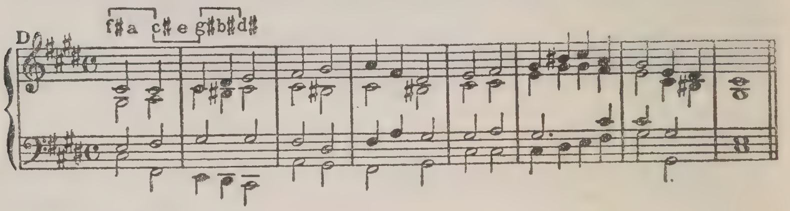
Lesson: Write six complete cadences in A maj., D♭ min., G♭ maj., F♯ min., G♯ maj., D min.

Write six extended cadences in B♭ min., C♯ maj., F♯ min., C min., D maj., F♭ maj. Do not use signatures; write the necessary signs before the notes, as in the above illustrations. Further: The student should be able to play on the piano any cadence in any key called for, the teacher supplying the position of the first tonic harmony, tho the choice may also be left to the student. I consider the ability to play the cadences of much greater value than the writing, because the latter, as stated before, is merely a mechanical exercise, while the playing requires greater concentration and helps to develop appreciation of purity of sound by means of perfect voice-progression.

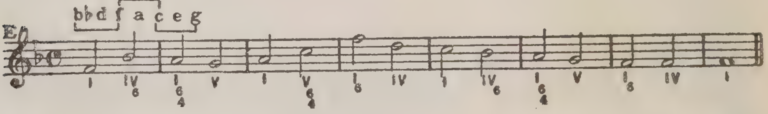
Lesson: This calls for the introduction of the I, V and IV triads. Do not neglect playing the exercises after they have been written; also be sure to play them again after they have been corrected by the teacher and learn by comparing the sound, as written by you, with the corrected version. This suggestion applies to every future lesson.

After analyzing and working out the following exercises write some of your own invention.

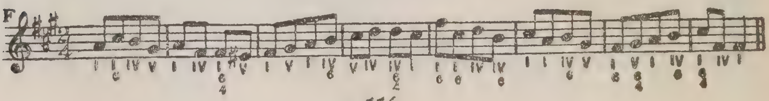
D



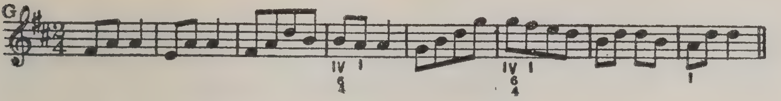
E



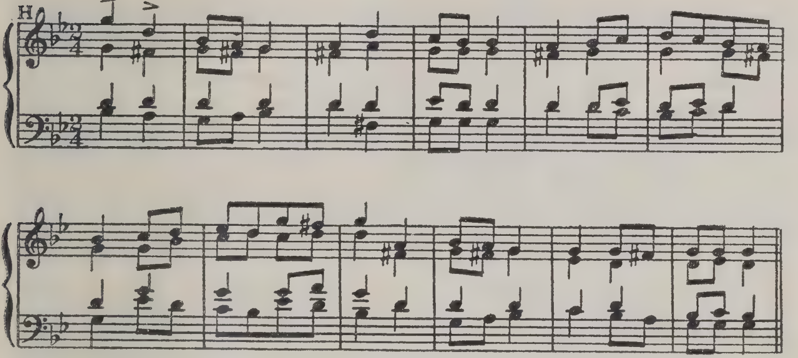
F


I I6 IV V I IV I6/4 V I V I IV6 V IV IV6/2 I I6 I6 IV IV6 I I IV6 V I6 V6/4 I IV6 I6/4 IV I

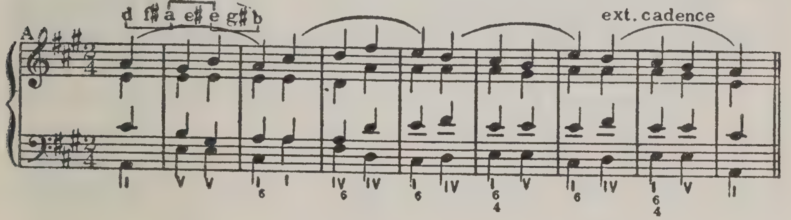
G


IV
6
4
I
IV
6
4
I
I

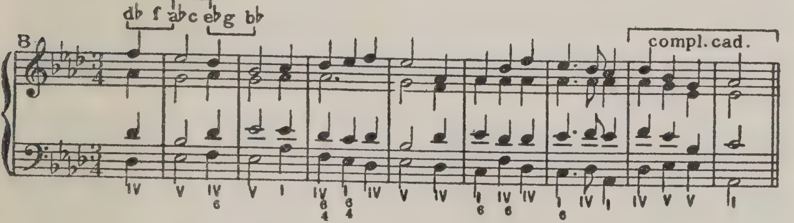
H



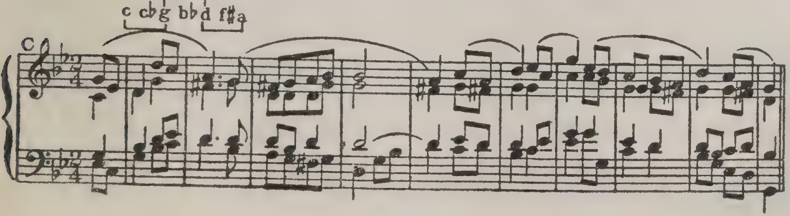
A


d f♯a e♯ e g♯ b
ext. cadence
I
V
V
I
6
I
IV
6
IV
I
6
IV
I
6
4
V
I
6
IV
I
6
4
V
I

B


d♭ f a♭c e♭g b♭
compl. cad.
IV
V
IV
6
V
I
IV
6
4
I
6
4
IV
V
IV
I
6
IV
6
IV
I
6
IV
I
IV
V
V
I

C


c c♭g b♭♭d f♯a

CHAPTER VIII

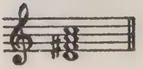
THE DOMINANT SEVENTH CHORD

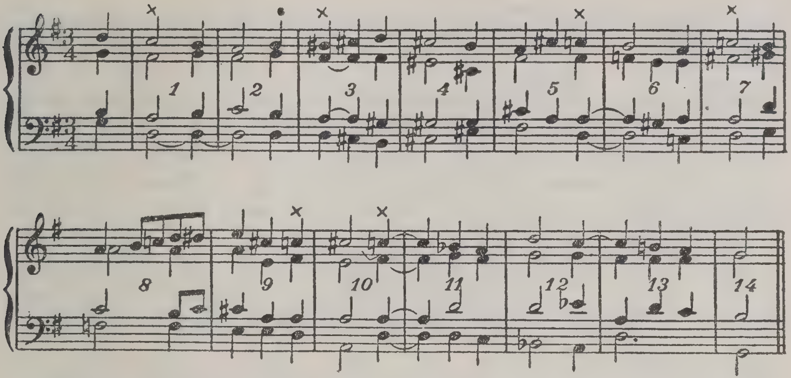
It is customary to finish the subject of triads before taking up the study of seventh chords. I have departed from this custom for various reasons. First of all, the dominant seventh chord must be considered the sacred chord in music, because it is God's own creation; it is part of the universe, vibrating with elemental strength, having dominated the musical world since its inception; reigning and ruling for evermore. Besides, it is the most easily recognized harmony on account of its definiteness, almost excluding ambiguity; beloved, on account of its mildness of sound, by every human being. The reason for this is found in its construction; the four tones of which it is composed are the most prominent overtones; the fourth interval, the minor seventh of the root, adding that quality to its sound which gives it a mild unrest, demanding a solution, yet never solving its cosmic problem quite satisfactorily. (See chapter on overtones.)

In other words—the V_7 is the most important chord in all music and, because every one is familiar with its sound, and on account of the definite leading demanded by the seventh, it adds an element of interest to our, thus far, very much restricted work which is most gratifying to hear. There is no valid reason for delaying its use in our exercises, as its problems are most readily solved by any student.

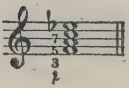
f a c e g b d f. The chords consist of root, major, third, perfect fifth and minor seventh, that is, a minor third added to any major triad produces the sound of a dominant seventh harmony. This harmony is absolutely the same in minor as in major keys.

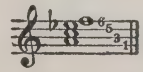
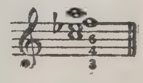
As stated above, the chances of hearing the chord as something else than dominant are slight. I rather hesitatingly append the next example, as it might weaken this statement of its definiteness of sound, altho it is safe to assume that the unsophisticated musical ear will not care to associate a sound like

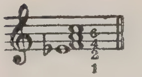
 with anything else than a V_7.



Nevertheless, the example shows the chord as V_7 in measure 1. The same sound in measure 3 becomes an augmented 6th chord, leading to F♯ min. In measures 5 and 7 it is a IV_7 with raised 3d in A min.; in measure 9 it is IV_7, with lowered 7th in A maj.; then in measure 10, it reverts to its original character as V_7, but in G min., and three measures later it leads back to G maj.

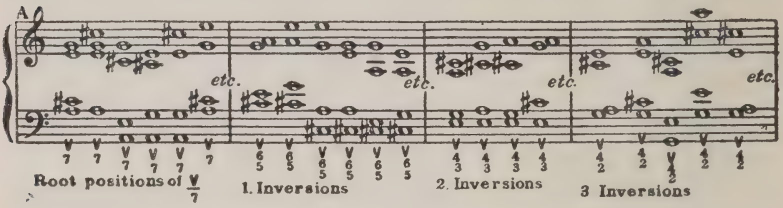
As the chord consists of four tones, it becomes subject to three inversions. The root position shows the intervals, 1, 3, 5, 7,  figured 7, the underlying triad not needing figuring because the root is in the bass.

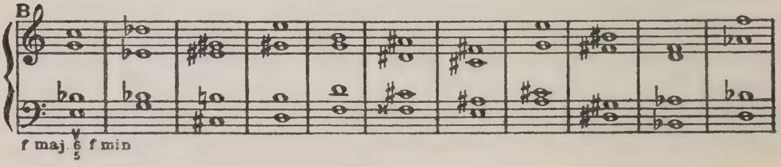
The first inversion brings the 3d of the chord in the bass—the intervals are now 1, 3, 5, 6  As the distance from the new bass-tone—in this instance A—to the former root, F, is now a 6th and to the former 7th, a 5th, the chord is called a six-five $\binom{6}{5}$ chord. The 2d inversion  shows the 5th as lowest tone and the distances to the former root and seventh are now a 4th and 3d respectively, hence its name: four-three chord $\binom{4}{3}$. If the 7th becomes the lowest tone

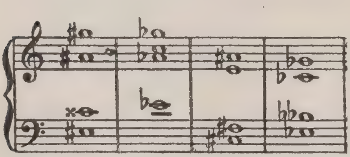


the intervals are 1, 2, 4, 6. The figure two (2) is sufficient to indicate this inversion, altho it is frequently named the four-two chord. These figures—7, $\substack{6\\5}$, $\substack{4\\3}$, 2—always indicate the presence of the seventh, because figures like 5-6, 3-4, (1)-2 represent adjoining scale steps, or 2ds, which are inverted 7ths.

The student must, of course, understand that the position of the intervals is of no consequence so far as the figuring is concerned; the latter depends entirely on the lowest tone.

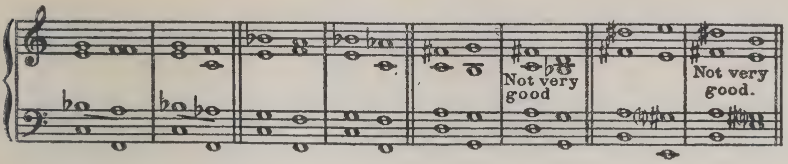






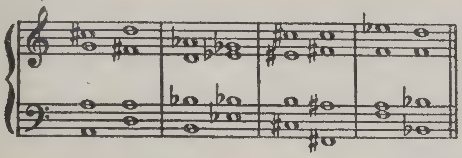
Lesson: Place the necessary figures under the chords given in Ex. B, also mention the major and minor keys to which these chords belong as dominant sevenths.

The resolution of V_7 into I is subject to the following rules: The seventh of the chord, the so-called dissonant tone, needing resolution, descends to the third of the I, the third being the tone of resolution; the remaining intervals are those of the V triad and are to be led accordingly.

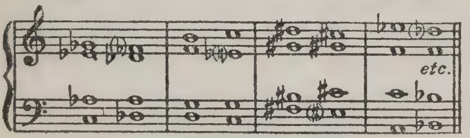


Where resolution of root position of V_7 into root position of I takes place, it frequently becomes necessary to omit the 5th of the I triad or to lead the 3d of the V_7—the leading-tone—downward to the 5th in order to complete the I triad. Both leadings given above are unobjectionable.

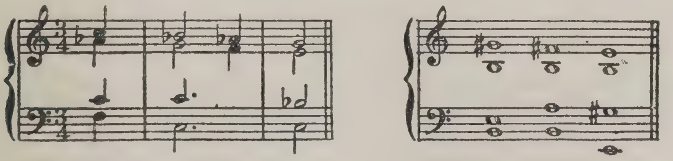
It is, of course, possible to omit the 5th of the V_7 and double its root; in that case the succeeding tonic triad can always be complete.



If inversions of V_7 are led into I it is not necessary to omit intervals in either harmony.

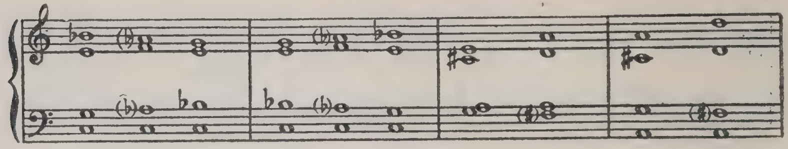


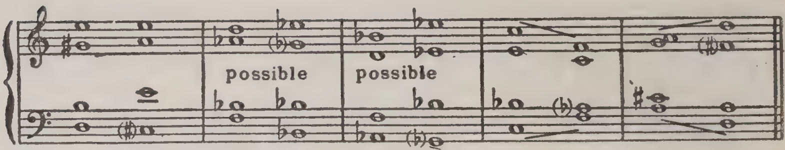
Sometimes even the 3d of the V_7 may be omitted if the trend of the voice-leading demands it.



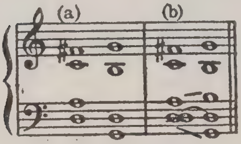
It is unnecessary to call attention to the fact that in pure three-part writing it becomes imperative to omit either 3d or 5th.

The next example shows a few other possible leadings of the intervals of the V_7 chord.

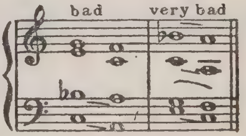


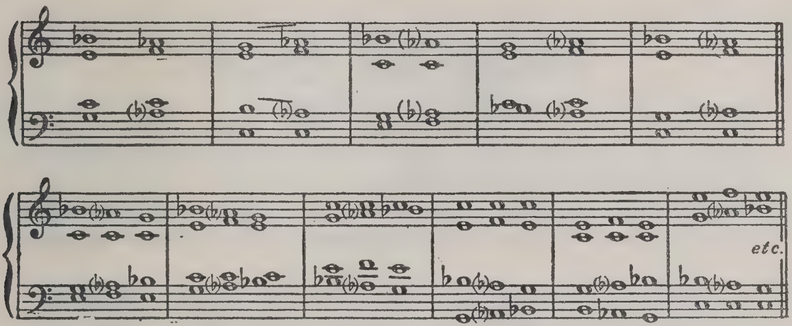


The last two progressions are good only at the end of phrases; the octaves, in contrary motion, have been sanctioned by usage. Even the following example, containing parallel 5ths, can be explained. There is nothing unsatisfactory in the sound of these 5ths, because they are based on the leading of five parts as shown in the 2d example at (b) but they must not be written when only four parts are employed.

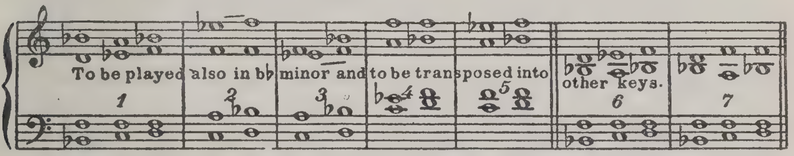


If the 7th descends, no other interval of the chord must move into the tone of resolution, unless in contrary motion. This explains the true inwardness of so-called covered, or hidden, or concealed octaves. If this rule, "do not double a tone of resolution unless in contrary motion", is observed, the student does not have to bother his head very much about covered octaves. The above resolutions are, of course, atrociously sounding specimens; the 7th—B♭—is so insistent in its demand for a downward resolution that the leading downward of any other voice to the 3d of the I places a most unnecessary emphasis on this 3d—irritating our musical sensibilities. The following resolutions are perfectly good, because the 3d of the F maj. or F min. chord is doubled in contrary motion.

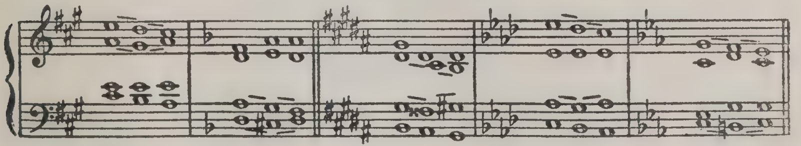




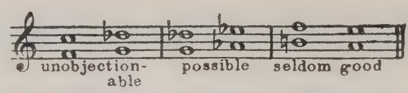
The 7th of the V may ascend to the 5th of the tonic triad if V^4_3 is followed by I_6.


To be played also in b♭ minor and to be transposed into other keys.
1
2
3
4
5
6
7

In every case the 7th, E♭, sounds like a passing-tone for which F could be substituted, as shown in the examples marked 6 and 7. Of peculiar interest are the 5ths in example 5 and 6. Ordinarily a diminished 5th, like the one from A to E♭, should not be followed by a perfect 5th, but should resolve into a 3d; but these 5ths have been written from time immemorial and the reason for it can only be that the E♭ is heard as a passing-tone, or, in other words, as a substitute tone for F. The melodic insistence with which the D leads diatonically through E♭ into the F, ignoring the downward tendency of the E♭, must also be considered. A progression from a perfect 5th into a diminished 5th can never be objectionable, because the resolution of the dim. 5th into a third is still possible.

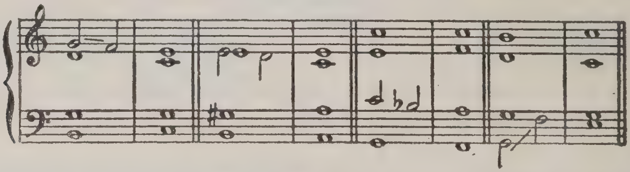


It is well to remember: A diatonic progression of perfect into dim. 5th is usually unobjectionable, but the progression of dim. into perfect 5th must be used with discretion.

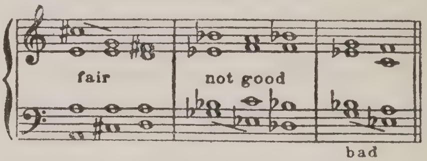


(The fact that intervals are 5ths is of little importance; the question is simply whether, and when, a natural resolution of a dissonant interval may be ignored.)

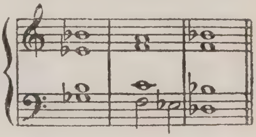
The 7th of V as a passing-tone is readily understood; this device is one of motion, investing any part with greater interest.



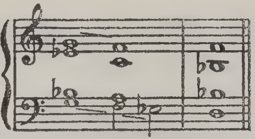
A skip into the 7th, if made from below (see last example, bass part), is always good, because the downward tendency of the 7th neutralizes the skip—in other words the law "after a skip, return in the direction from which the skip was made," can, in some instances, be obeyed. A skip into a 7th



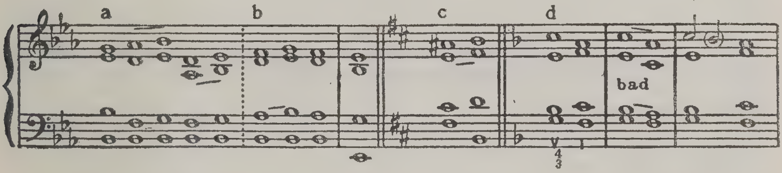
from above is not always good. The example marked "fair" shows a V followed by a V_7; in such a case the 7th might be introduced in any part without serious scruples; still it is clumsy voice-leading. So, in the leading in the example marked "not good", it is much better to let the root precede the seventh.



The one marked "bad" shows the obvious desire to avoid parallel octaves between the soprano and bass. I should much prefer the octaves, because, while the ear momentarily receives an unpleasant sensation, it is immediately compensated by the passing of the F to E♭. It is one of those rare cases where

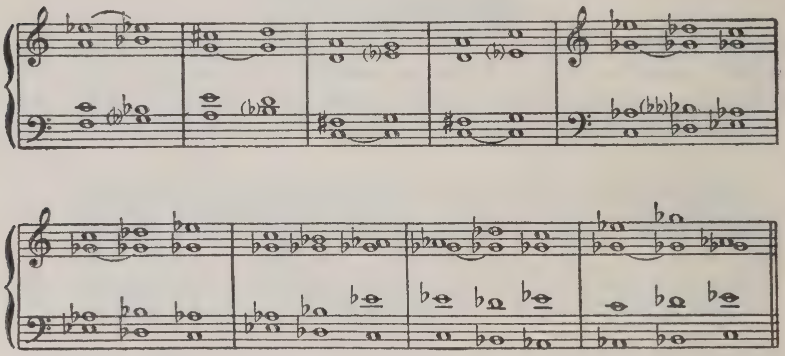


even the perfect octave becomes dissonant for the moment. The following examples show the ascending 7th, under still different conditions.



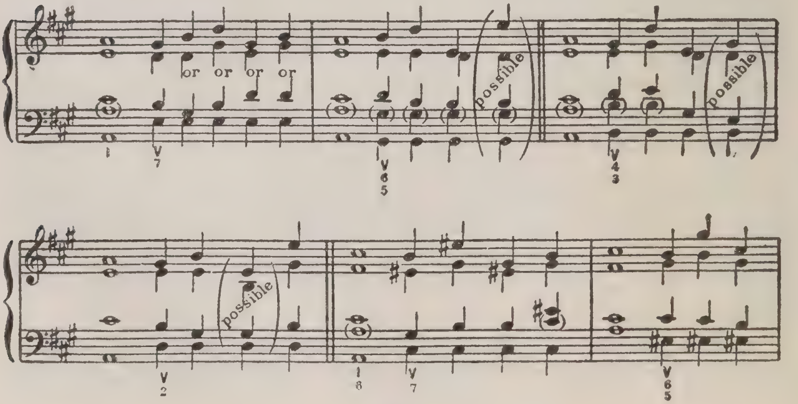
At **a** the bass is treated as an organ point; the upper three voices are written in three-part harmony; the chord D, F, A♭, while essentially a V_7 without root, nevertheless gives greater freedom to the leading of the A♭. In this example it is also possible to regard the tenor as the real bass. In that case the second and fourth chords are 2d inversions of V_7 and the rule that "the 7th may ascend if the V^4_3 is followed by I_6" may be applied, and at **b** the second chord, I^6_4, is nothing but a melodic embellishment, merely interrupting and delaying the resolution of the V_7 of the I. The example at **c** is not impossible, altho as a final cadence it should not be used. An excuse for the ascending 7th may be found in the fact that the upper three voices move diatonically, producing the effect of a progression of 6th chords, disregarding the existence of the roots of these chords in the bass. The ascending 7th in the tenor at **d** is permissible because the leading of the soprano from C to A prevents the tenor from going to A, thus avoiding bad hidden octaves. Another explanation may be found in the fact that the soprano leads from C to A through an imaginary B♭; this would double the B♭, and as both cannot move into A, since this would cause open octaves, the tenor is simply obliged to make way for the leading of the upper voice, which, after all, conveys to the ear the strongest melodic progression.

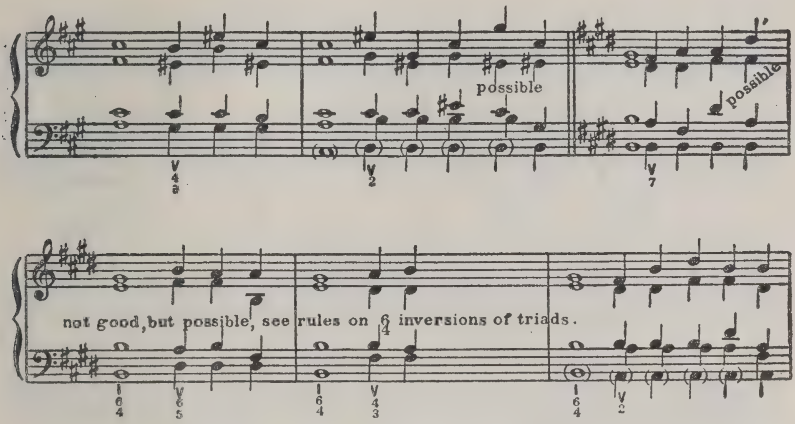
It is possible to follow the V_7 by other chords than the I —with the material at hand; the V_7 may well progress into the IV triad. In such cases it is best to keep the 7th of the dominant stationary.



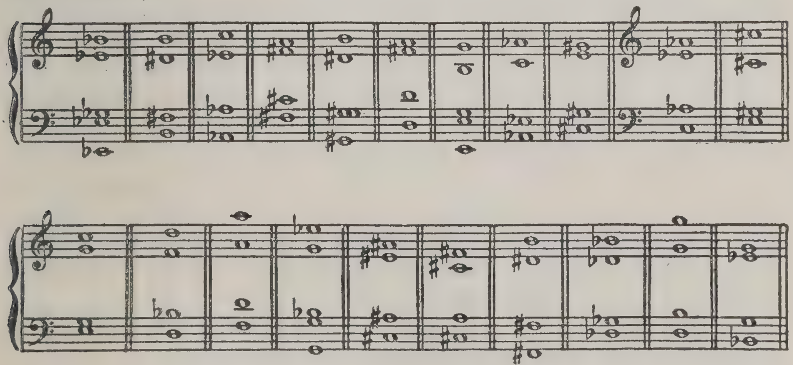
The IV triad, as such, is here of little moment; it must be regarded as a passing chord placed between two V₇ harmonies, which the last examples in D♭ maj. will prove very readily. (All these examples must be played on the piano and others in various keys must be furnished by the student.)

That the V₇ harmony may be preceded by any harmony goes without saying; the chords to be used for the present are I or IV or V. The following examples show a few of these progressions.

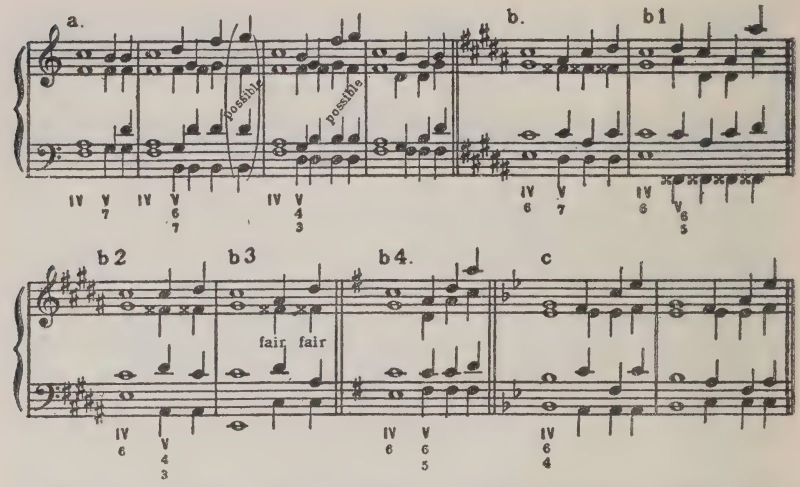



V 4 3
possible
V 2
V 7
possible
not good, but possible, see rules on 6 4 inversions of triads.
I 6 4
V 6 5
I 6 4
V 4 3
I 6 4
V 2

Lesson: Write and play progressions from the following positions of the I triads into the various positions and inversions of their V_7s. (Either bass tone may be used in the I triad where two are given.)

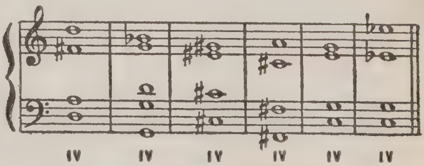


The IV as preceding chord is very effective. The progression from IV to V_7 is not quite so "severe" in sound as that into the V triad, because the root of the IV is the 7th of V, forming a strong link, altho it is by no means necessary that this common tone should be tied, as the following examples will amply prove. But the mildness of sound which the V_7 produces is unquestionably the result of a fusion of the two opposite sounds of IV and V, the common tone being the conciliatory element.

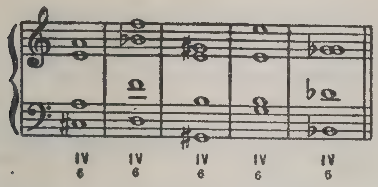


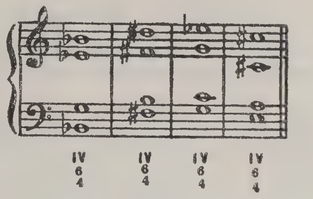
These examples show that the progressions from IV in root position may be made into any position of V_7. All the examples under **b** in G♯ minor are more or less restricted; at **b 1** the upward progression from E to F𝄪 in the bass would not be good on account of the resulting aug. 2d; the diminished 7th from E to F𝄪 is unobjectionable. The upward progression, however, is possible in major as shown in **b 4**, G maj. Neither could the bass in **b 2** be led upward into A♯ on account of the resulting aug. 4th. The reasons for restricting the use of aug. 2ds and aug. 4ths have been set forth in the chapter on scales. Progressions from IV^6_4 into V_7 are limited to those into V^6_5 and V^4_3, because these permit of diatonic bass progressions, while those into V_7 in root position and V_2 do not.

Write and play a few progressions into dominant seventh chords from the following subdominants:



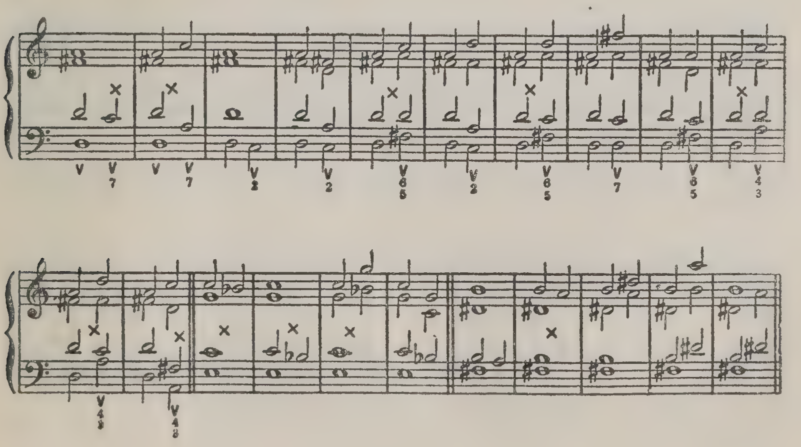
The possibilities of the last two subdominants are again very much restricted because the 5th and 3d in the chords respectively are doubled and not the root.





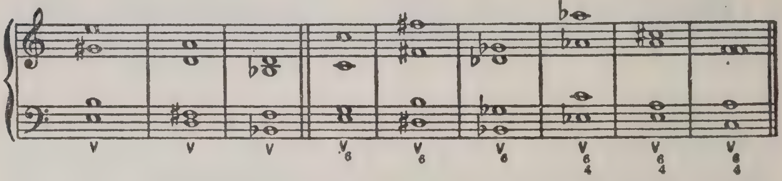
It may be well to restate here the fact that any harmony may be preceded as well as succeeded by any other, always provided that the voice-leading conforms to the established laws and usages. Therefore any of the progressions mentioned so far in this chapter may be reversed. While it is true that progression from IV to V is more normal than the reverse (see chapter on IV) yet this does not exclude the possibility of V_7 being followed by IV, which may be proven very readily by reversing any of the progressions from the various positions of IV into those of V_7 given previously.

That the V_7 may, at any time, be preceded by the V goes without saying—altho the reverse is seldom effective. It is always well to strive for increasing interest in chord progression. This is the case when the V is followed by V_7, the 7th supplying the "element of interest", but if the V_7 is succeeded by the V the elimination of the "element of interest" produces an anti-climax. The following illustrations need no further explanations.

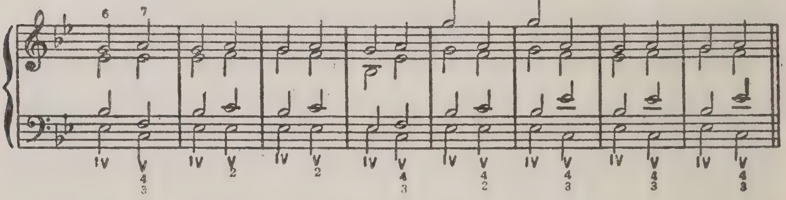


If reversed, those marked x might possibly be useful.

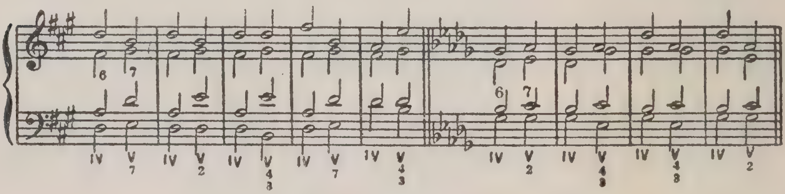
The student should write and play a few progressions into various V_7 positions from the following V triads.

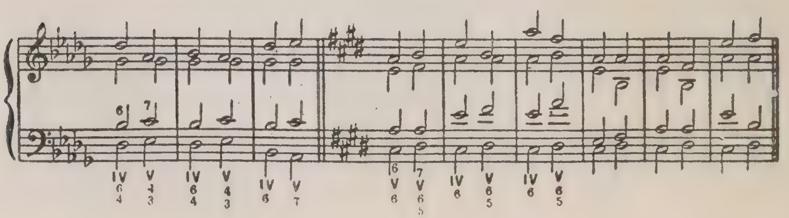

V
V
V
V 6
V 6
V 6
V 6 4
V 6 4
V 6 4

The use of the V_7 makes possible the harmonization of the melodic progressions of the 6th and 7th steps of the scale. If these steps occur in the soprano, the 6th degree is to be harmonized with IV in root position and the 7th degree with V^4_3 or V_2.

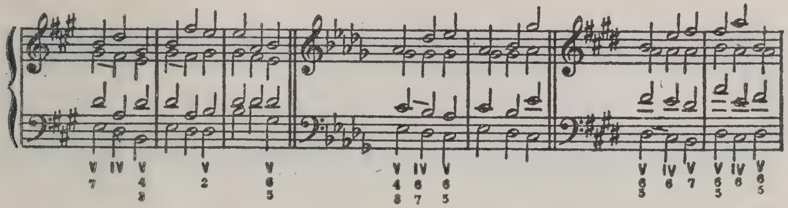

6
7
IV V 4 3
IV V 2
IV V 2
IV V 4 3
IV V 4 2
IV V 4 3
IV V 4 3
IV V 4 3

But the lower voices including the bass may also make use of these steps:

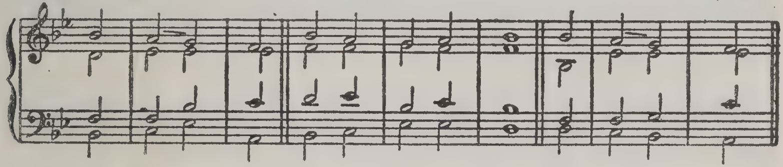

6
7
6
7
IV V 7
IV V 2
IV V 4 3
IV V 7
IV V 4 3
IV V 2
IV V 4 3
IV V 4 3
IV V 2


6
7
IV 6 4
V 4 3
IV 6 4
V 4 3
IV 6
V 7
6 V 6
7 V 6 5
IV 6
V 6 5
IV 6
V 6 5

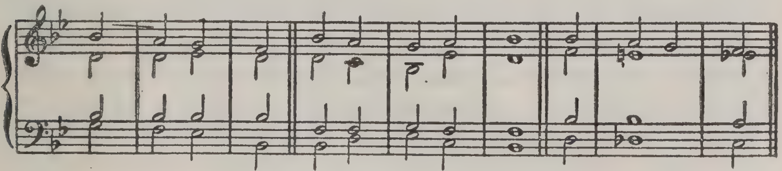
Most of these examples may be reversed, i. e., V_7 leading into IV; again the IV is then only a passing harmony—a melodic chord, without harmonic significance, best followed by another position of V_7. This sounds best when the steps 6 and 7 occur in one of the lower voices.



The progression of 7 to 6 in the Soprano does not sound quite as natural, because, on account of usage, a different harmonization is expected, altho there is no reason why the following progressions should not be written, always considering the IV as a melodic combination.



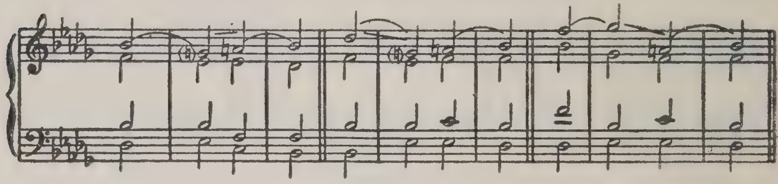
While the following harmonizations of 7 to 6 are for later work, I have inserted them to illustrate some of the "expected progressions".

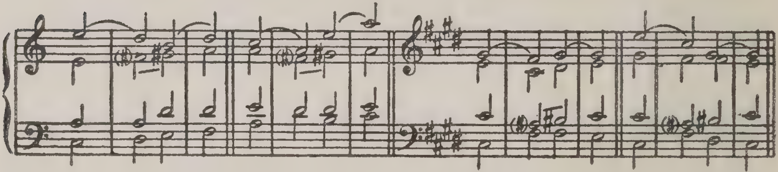


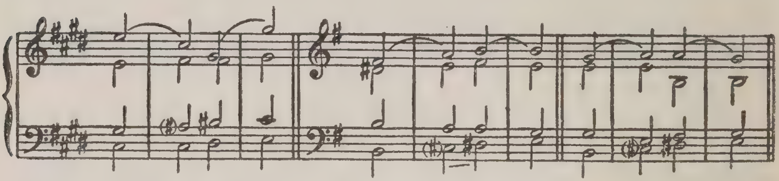
The progression from 6 to 7 in the minor scale presents a different problem. In the harmonic minor scale we are confronted by the aug. 2d which as a rule should not be used. Some exceptions to this rule have already been mentioned in the chapter on scales.

The average listener, and this includes the majority of the musical fraternity, centers his attention on the melodic thought.

As this is most strongly felt in the upper voice, an augmented 2nd in the soprano does not seem unnatural, altho it becomes possible in a more restricted way even in the other voices. The appended examples are taken from the foregoing major illustrations, simply transposed into parallel minor keys.



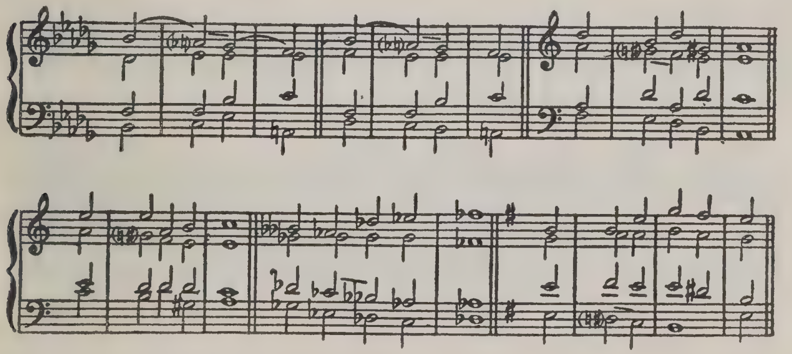




Every one of the aug. 2ds can be accepted on account of phrasing, the motives dividing the 6th and 7th steps. The third example shows the inversion of the augmented 2d into a diminished 7th; this is, of course, perfectly good writing. No thoughtful musician could take exception to any of the above progressions; they cannot possibly offend even the most hightly cultured ear. If, however, it is found desirable to avoid these augmented 2ds, the 6th of the minor scale may be raised, making use of the melodic form. The IV then becomes a major triad, the same as in major keys,—indicated by $\mathrm{IV}_{3<}$.

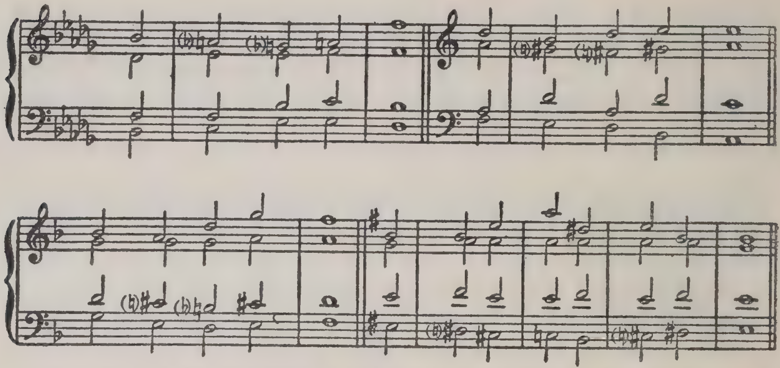
Throughout this work I shall use the < (crescendo—increasing) for raising-sign and a > (diminuendo—diminishing) for lowering. The student must play the last examples with both the minor and the major IV; the latter may seem a little strange or strained, but only at first; repeated hearing will familiarize the sound; beside he will find examples of this kind in the compositions of every composer from Bach to our present days.

That the step from 7 to 6, in form of an aug. 2d, is just as good and perhaps even a little better than from 6 to 7—(downward progression being more natural)—is readily proven by playing the following examples. Here again the choice of raised or natural 7th of the scale is given, but it is indisputable that the V_7 with minor 3d is much less natural than the IV with raised 3d, because the former involves the alteration of a "product of nature". A V or V_7 with minor 3d can only be called dominant by courtesy—they are melodic combinations without the true dominant character.



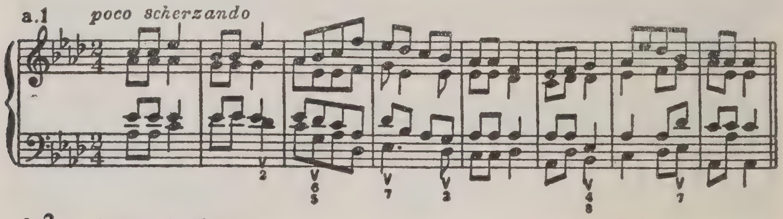
The student must use these progressions sparingly, first of all becoming acquainted with that which is considered natural. This should never be done to the exclusion of the "possible", which might be very effective in the right place.

The next few examples prove still further the possible alterations of the minor scale. While playing these, listen principally to that voice which contains these altered tones,—in fact emphasize them; after that, the chords, which are nothing but the result of voice-leading, will sound quite natural. Bach's music contains innumerable examples of such leadings, particularly in the Fugues of the Well-tempered Clavichord.

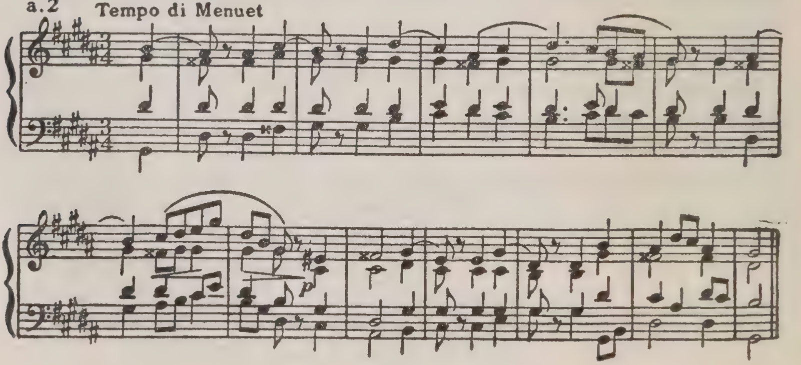


Lesson: The material presented in this chapter will enable the student to write rather well-sounding little examples. It is out of the question to illustrate all the points made, nor is it necessary—write naturally and you will write musically. The appended examples—**a 1**, **a 2**, and **a 3** must be played and analyzed. They are in places a bit sophisticated as to phrasing (even the harmonization is not entirely free from this "fault") but it has been done purposely.

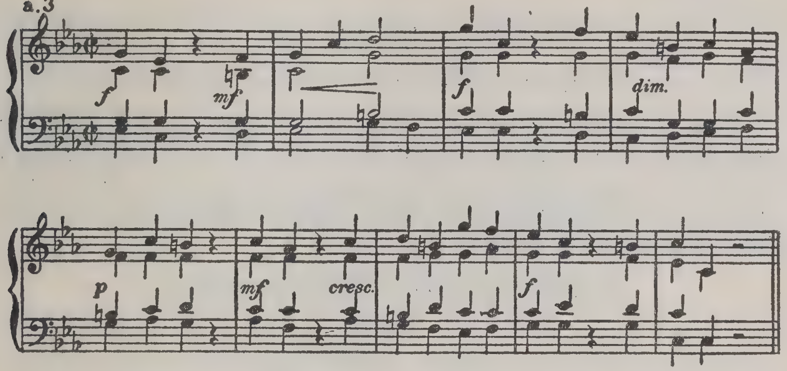
a.1



a.2

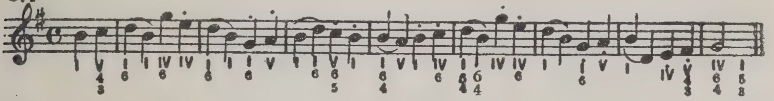


a.3

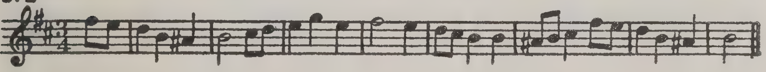

f
mf
f
dim.
p
mf
cresc.
f

The student's work should be conservative, somewhat like the examples **b 1** and **b 2**; these he must fill out and, besides, invent some entirely his own, perhaps three in major and three in minor keys.

b.1


I
V 4 3
I 6
I
IV 6
IV
I 6
I
I 6
V
I
I 6
V 6 5
I
I 6 4
V
I
IV 6
I 6 4
I 6 4
IV
IV 6
I
I
I 6
V
I
IV
V 4 3
IV 6 4
I 5 8

b.2

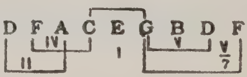


CHAPTER IX

SECONDARY TRIADS IN MAJOR KEYS

Every chord has either tonic, dominant or subdominant character. The secondary triads are substitutes for the primary chords and as a matter of fact most of them have dual character, as will be shown hereafter. Their charm of sound lies in their possible ambiguity.

THE TRIAD ON THE SUPERTONIC



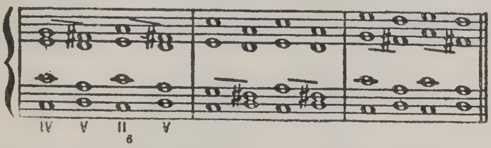
The diagram shows that this chord is a minor triad. Just as the tone F, borrowed from the subdominant and added to the dominant, brought about a certain fusion of the V and IV elements, so does the tone D borrowed from the V and added to the IV, give to the IV idea a certain mildness, which the IV itself does not possess. In other words: the triad on the II has, first of all, IV character. This is further proven by the fact that the first inversion of II placing the root of the IV in the bass, is its most characteristic cadential position. This, however, does not exclude the use of its root position nor even its $^6_4$ inversion, as we shall see. The 3d is the best tone to double and as the 3d of II is the root of IV, this emphasizes still further its subdominant character, yet any of its intervals may be doubled if required by the voice-leading.

In order to understand the possibilities of this harmony, in relation to our previous material, it is best to treat its different positions separately, beginning with its first inversion.

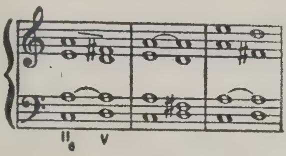
II_6 may be introduced preceded by I, I_6, IV, or IV_6, but rarely by V or V_7 or I^6_4; the last three are the best succeeding harmonies and it is the law in chord progressions, that the strongest preceding chords are the weakest succeeding ones and vice versa. This law will be explained more fully when we have more harmonic material at our disposal.

The succeeding harmonies for II_6 are V, V_7 and I^6_4; other possibilities are I_6, any inversion of V_7, IV, sometimes even I or I_6.

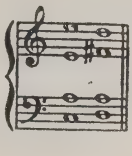
It is well to remember that if I precedes or succeeds the II, there is always danger of parallel fifths, because the roots of these triads stand in relation of seconds to each other. Further: if progression is made into root position of V, it is best to lead the root of II into 3d of V, because the root of II is really a substitute tone for the 5th of IV, the latter having no choice other than leading into the 3d of V. (See rules on use of IV.)



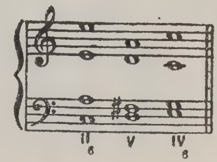
If the root of II is doubled one of the two tones remains stationary,



and when the 5th is doubled the best leading is



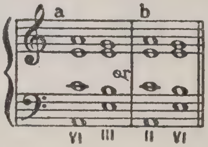
or possibly



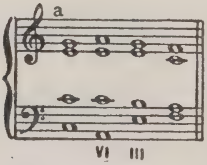
Further:—Generally speaking it is ineffective to have a secondary triad preceded and succeeded by one and the same harmony; for instance—avoid progressions like I, II, I or IV, II, IV, etc. (unless the position succeeding is different from that preceding). The succeeding chords in these cases would spell retrogression rather than progression. This advice holds good no matter what harmonies are involved; except in case of primary chords, which may precede and succeed each other at will. Needless to say, this is not an inflexible rule.

The preceding and succeeding chords for II_6 mentioned above, furnish the material for the following examples. It is, of course, impossible to illustrate more than a few progressions, as, with each new harmony introduced, the possible uses multiply proportionately; in fact they become practically inexhaustible. If this were not so, the "Götterdämmerung" of music would be discernible in the not distant future.

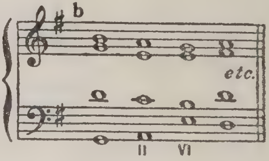
It is best to begin all of these short illustrations with either root position or 1st inversion of the I triad of a key. If, for instance, an illustration began with a minor chord marked II or VI, or whatever this chord might represent, the mind would first have to establish it as such. This would involve a more or less complicated mental process, as the following practical illustration will readily prove:



No one can hear, either mentally or in reality, the chords at a as VI and III without having first established the key of C major, nor can one hear the chords at b as II and VI without the realization of the key of G major. If one desires to illustrate the progression at a, at least this much should be written



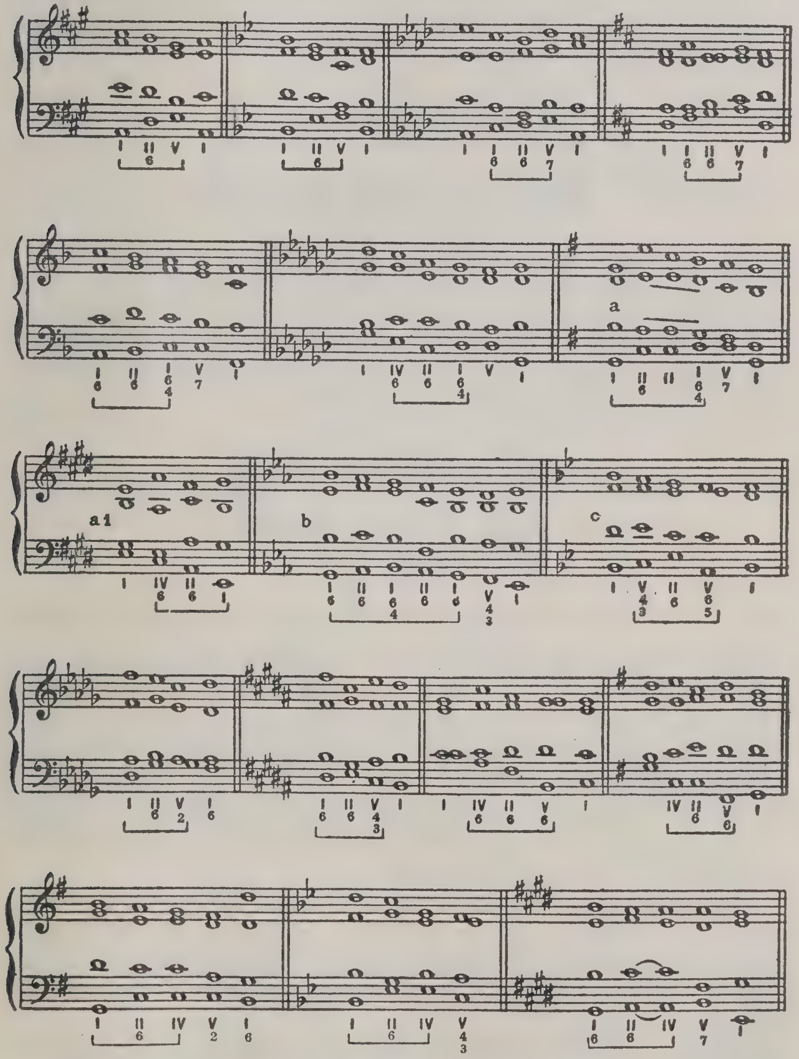
or that at b



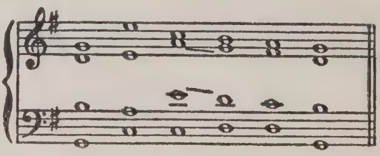
It is not even desirable to begin on a I^6_4 chord, as it is too strongly melodic, being either a suspension or a passing harmony; for the same reason it is not well to end on a $^6_4$ inversion of any harmony; on the other hand, it is rather immaterial on what chord a short example ends, so long as a definite key has been established. The last two examples prove this clearly; Ex. a cannot be in any key but C major even tho it closes with the IV, neither can b be anything but G major altho the last chord is the V.

The foregoing paragraph contains good advice and should be followed implicitly by the student, as the specific **sound-character** of a chord can only be determined by its relation to a given key.

The longer examples are, of course, not subject to this rule; they are to be regarded as true musical thought and thus the imagination may be given wider play; but it is best to end them on the tonic of the key in which they are written, in order to give them a certain feeling of finality.

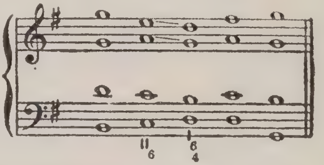

I II V I
6
I II V I
6
I I II V I
6 6 7
I I II V I
6 6 7
I II I V I
6 6 6 7
4
I IV II I V I
6 6 6
4
a
I II II I V I
6 6 7
4
a 1
I IV II I
6 6
b
I II I II I V I
6 6 6 6 6 4
4 3
c
I V II V I
4 6 6
3 5
I II V I
6 2 6
I II V I
6 6 4
3
I IV II V I
6 6 6
IV II V I
6 6
I II IV V I
6 2 6
I II IV V
6 4
3
I II IV V I
6 6 7

The example marked **a** shows parallel 5ths between alto and tenor; these are not entirely bad because the I^6_4, as a melodic formation—suspending the V_7—could be left out; it simply delays the progression into the V_7 and it is therefore of no harmonic value. The query, how can parallel 5ths be avoided? is easily answered: by inversion into parallel 4ths. The example could have been written thus:

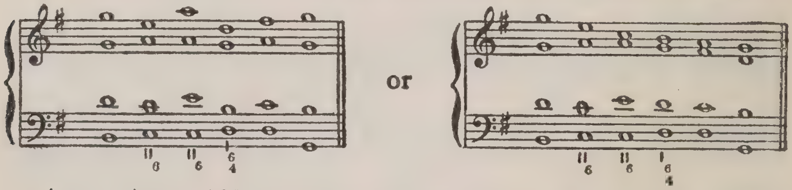


(Read over that part of the chapter on rules for four-part writing dealing with the problem of parallel 5ths.)

Another way of avoiding bad progressions is a change of position of the intervals—this means using the harmony in question twice. There is no reason why the same harmony could not be used any number of times desired.



These 5ths can be avoided by a change of position of the II.



At **a 1** (page 139) the effect is that of a plagal ending, the II being used as a substitute for IV.

The examples at **b** and **c** are not particularly effective altho correctly written. The excuse for **b** is the consistent diatonic progression of the bass; **c** is ineffective because V^4_3 as preceding chord is weak; besides the II is preceded and succeeded by the same harmony.

Lesson: The student must write a number of short examples similar to those furnished above; he need not fear exhausting the possibilities; hundreds could be written without duplication. (I usually ask for a dozen or more but that may depend upon the student's capacity for industry. It is well to write in different keys; never let the "line of least resistance" get the better of you; become versatile and develop a flexible musical mind. Never forget to place the analytical figures under the chords! This must be done for your benefit, not the teacher's; he knows! Never bring any work that you have not played over: the musical memory cannot become retentive unless it has heard the actual musical sounds over and over. **Learn to listen!**)

It should not be necessary to repeat the above advice but it will be added to as the work progresses.

The teacher should point out the rhythmic possibilities of the examples by playing them in dual or triple time, sometimes beginning with an accented and then again with an unaccented beat; this will increase their usefulness.

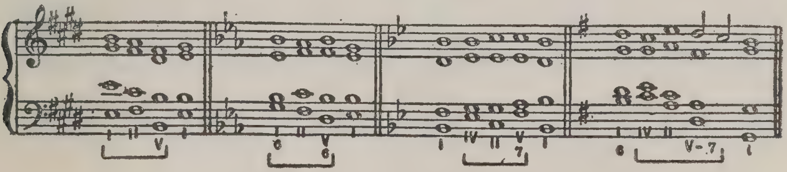
The root position of II is just as valuable as the first inversion. As a matter of fact it has greater possibilities than the latter.

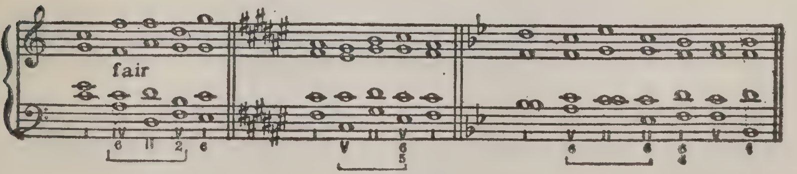
Again, any of its intervals may be doubled, depending on exigencies of voice-leading.

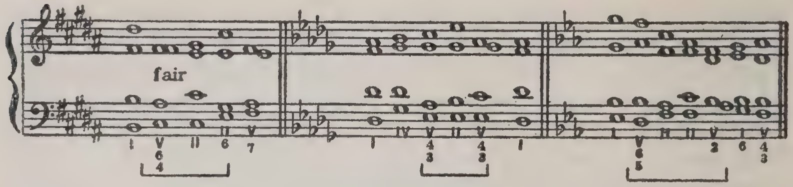
The preceding chords are: I, I_6, IV, (seldom IV_6,) V in any position, V_7 in any position and II_6.

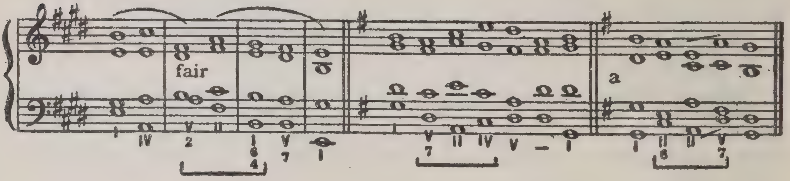
The succeeding chords are: V, V_6, V_7 in any position, I^6_4, sometimes I or I_6, IV and II_6.

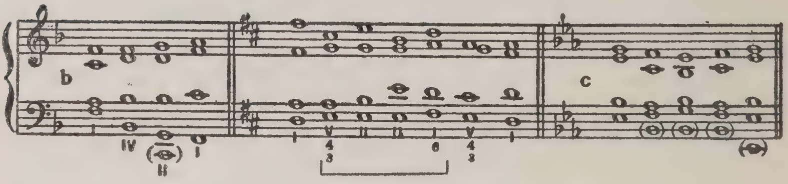
A few of these possibilities are illustrated in the following examples:



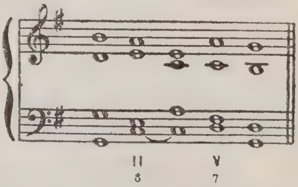



fair
I V 6 4 II 6 7
I IV V 4 3 II V 4 3 I
I V 6 5 II II V 2 6 4 3

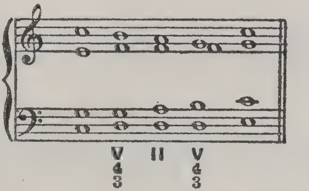

fair
I IV 2 II I 6 4 V 7 I
I V 7 II IV V I
a
I II 6 II V 7


b
I IV II I
I 4 3 II II 6 V 4 3 I
c

The example at **a** contains parallel 5ths; they are quite common in this particular form, altho personally I dislike them very much, as they usually show lack of sensitive perception of voice-leading. The reason that they are so readily overlooked or rather over-heard lies in the fact that the V_7 with its mildly dissonant character sounds "so pretty", absorbing the attention of the listener and also because the II following the II_6 is hardly considered a new chord, giving rather the impression of a stationary harmony, the effect being:



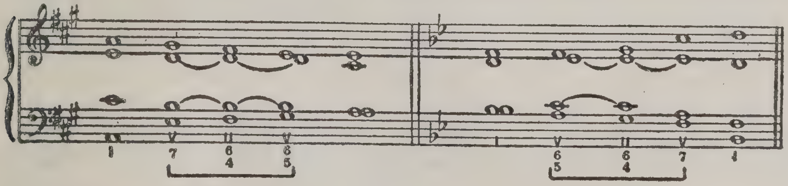
The examples marked **b** and **c** prove the dual character of a secondary triad. In most cases the II is subdominant in sound, particularly where II_6 is used, but the root position sometimes comes very near to having V quality, because its intervals form the upper portion of a V_9 chord. This is always the case where the preceding and succeeding chords are tonics as at **c**, or dominant 7ths:

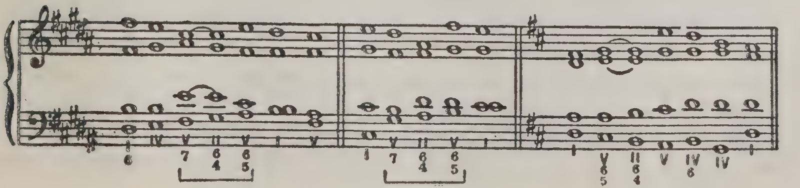


The A in soprano and tenor is merely a passing-tone between the two positions of the V_7, accidentally forming a supertonic triad while passing. The II in example **b** can also be heard as V_9, the progression producing rather the effect of a complete cadence than that of a plagal ending. There has been no particular effort made to systematize the order of preceding and succeeding chords in any of these short examples, and while they contain illustrations of all the chords mentioned, their order is dictated mostly by the fancy of the moment.

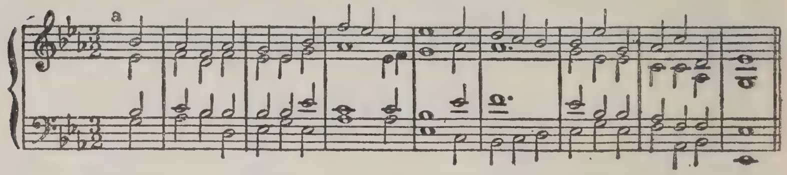
Lesson: The student must again provide a number of short examples of his own.

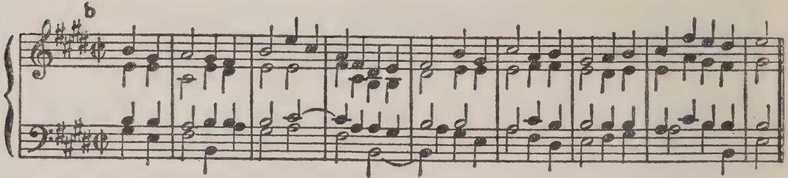
The II^6_4 is purely a passing chord, usually placed between root position and first inversion or vice versa of V_7; it has no harmonic individuality as the following examples will prove:

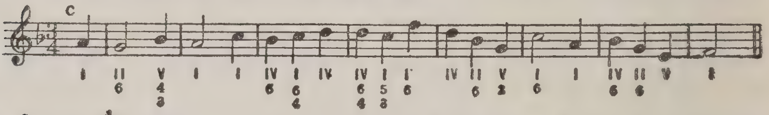


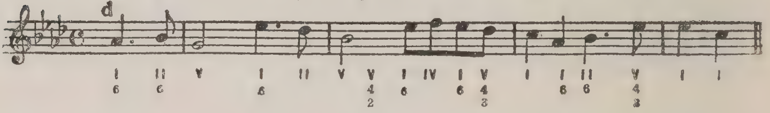


Lesson: Analyze the examples **a** and **b**, harmonize **c** and **d**, and invent at least two long examples of your own.

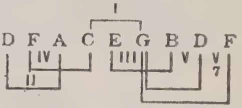





c
I
II 6
V 4 3
I
I
IV 6
I 6 4
IV
IV 6 4
I 5 3
I 6
IV
II 6
V 2
I 6
I
IV 6
II 6
V
I


d
I 6
II 6
V
I 6
II
V
V 4 2
I 6
IV
I 6
V 4 3
I
I 6
II 6
V 4 3
I
I

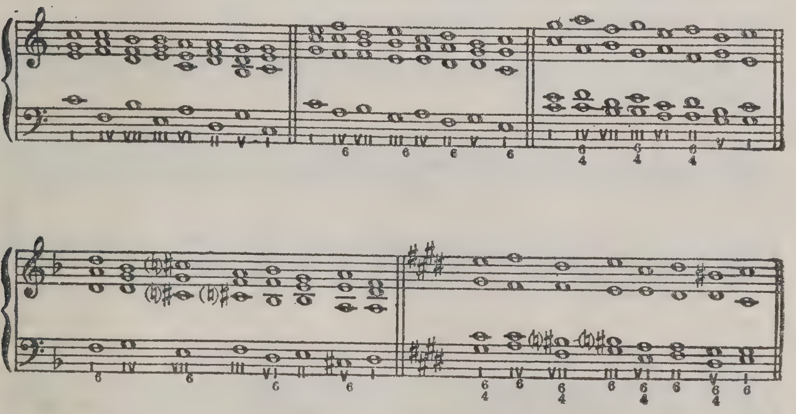
THE MEDIANT TRIAD IN MAJOR KEYS


I
D F A C E G B D F
IV
II
III
V
V 7

This chord is a minor triad having two tones in common with the tonic and two with the dominant triad, hence its dual character, which is determined by the succeeding harmonies. If it assumes I character, it must be regarded as part of a I_7 harmony without root and, if used as such, it is strongest with its root in the bass, altho its first inversion and even its $^6_4$ position may well assume I character.

While the root is the best tone to double, yet the 3d or even the 5th may occasionally be doubled. The 5th of the mediant is the leading-tone of the scale; but inasmuch as it is not the 3d of a dominant formation, it loses its character as leading-tone. In fact this 5th is really the 7th added to the I triad, hence its tendency of progression is downward and not like that of the 3d of the V with its upward insistence. (See chapter on four-part writing.)

IMPORTANT! The natural progression of any harmony is into a chord whose root lies a fifth below the root of the harmony in question. This law is based on the elemental fact that a dominant seeks progression into its tonic. Any chord, no matter what its construction, nor on which step of a scale it is founded, stands in relation of a dominant to the chord of its natural progression or resolution. Therefore: natural progression for any chord founded on the I is into IV, II into V, III into VI, IV into VII, V into I, VI into II, and VII into III. This embodies the principle of sequence, a much overrated harmonic and melodic device, a mere mechanical process, devoid of all imagination. Only occasionally do sequential progressions contain a certain element of strength, on account of their uncompromising rigidity, and may then prove effective. As a rule sequential designs, whether melodic or harmonic, or both, become monotonous if used successively more than twice. Appended are a few sequences based on the above chord progressions. The student may take them for what they are worth, which is very little!



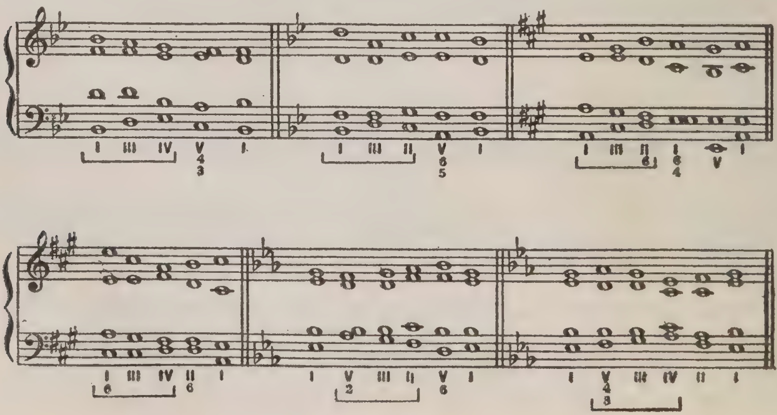
The deduction from the foregoing is: If a I_7 harmony is best followed by IV the III as part of the I_7 must also naturally move into that harmony or into such other chords as possess IV quality which, with our present material, includes II.

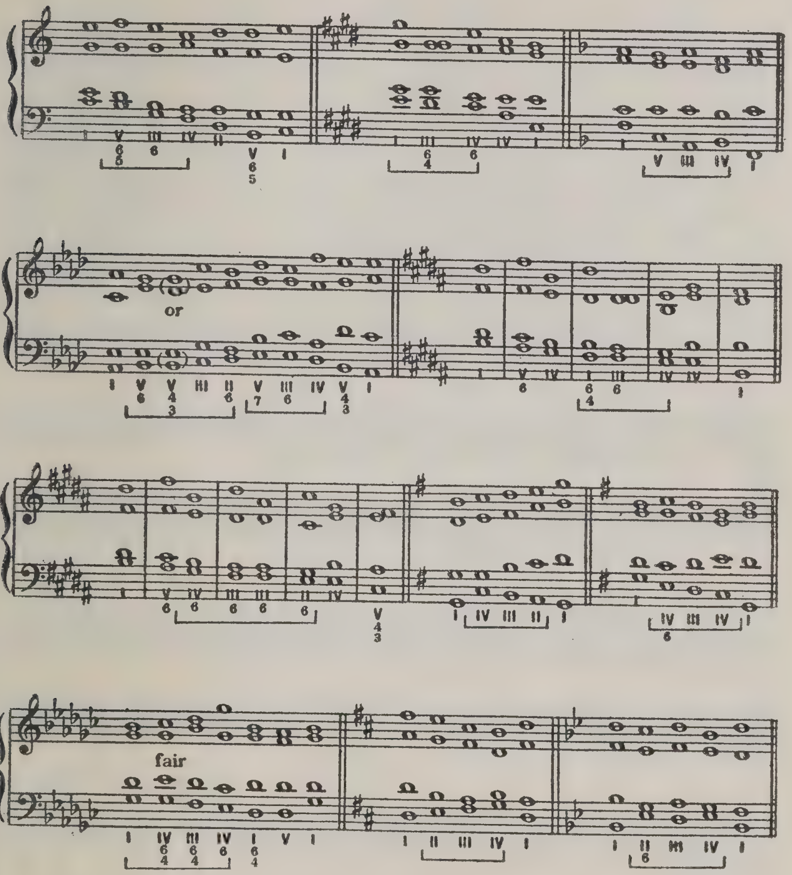
The best preceding harmonies for any chord, outside of those of the same character as the chord in question, are logically based on those whose root lies a fifth above. The III as a tonic formation is therefore best preceded by the I, or by the chord which lies a 5th above the root of III, which is the triad on the leading-tone. This is, however, a diminished chord, of little value in itself, except when it is regarded as a V_7 without root. In other words, it is a V formation. Therefore, the chords of I or V character are the best, preceding the III.

In condensed form: The triad on the III if used in place of I is, at present, to be preceded by I or V or V_7 and succeeded by IV or II. (IV and II may also be used as preceding chords; but do not use I or V or V_7 at present as succeeding harmonies, as these will be shown later on.)

(Hereafter I shall not mention specific positions of preceding and succeeding harmonies, as the possibilities increase almost unendingly with the addition of every new chord; only where the exclusive use of a certain position is required shall I be more definite. REMEMBER: The position of any harmony is the outcome of logical voice-leading; therefore the position of the preceding chord governs the position of the harmony into which it progresses. See chapter on four-part writing.)

The following examples prove the tonic character of the mediant.

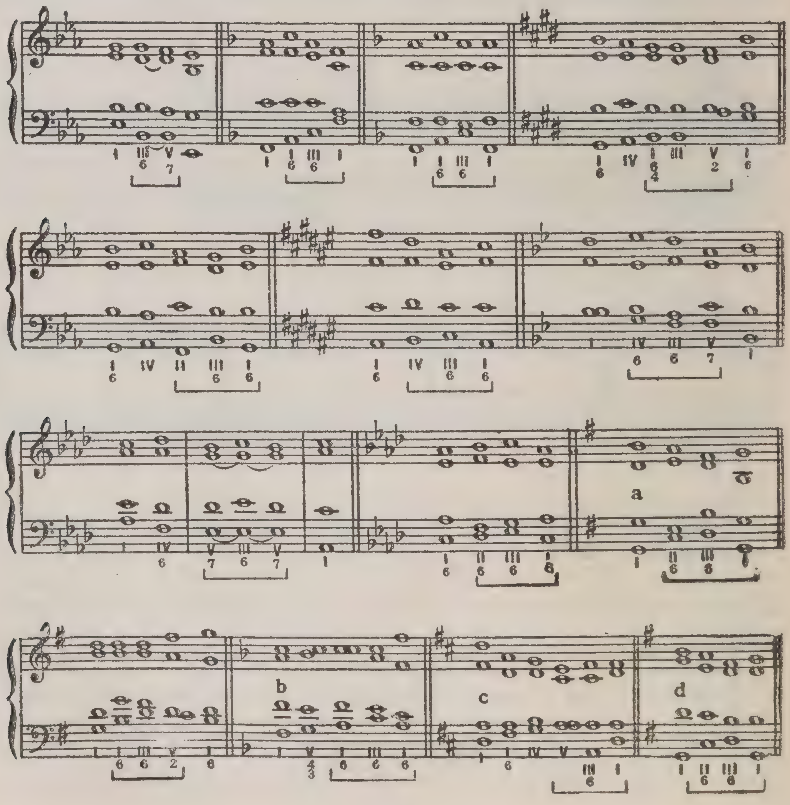



or
fair
I V III IV II V I
I III IV IV I
I V III IV I
I V V III II V III IV V I
I V IV I III IV IV I
I V IV III III II IV V
I IV III II I
I IV III IV I
I IV III IV I V I
I II III IV I
I II III IV I

A closer analysis of these examples will show that many of them contain the scale progression of 7 to 6. The 7th degree harmonized as fifth of the III triad, followed by the sixth degree as third of the IV or fifth of II is quite natural. (See chapter on V_7.)

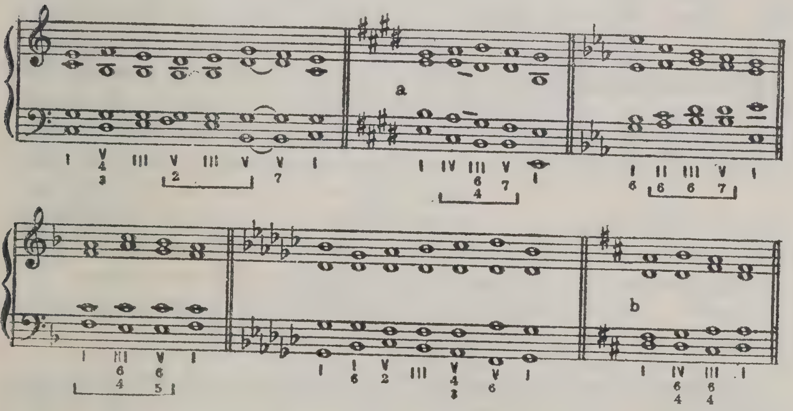
Lesson: Write a number of similar examples.

When the III is used in place of V it is purely a melodic formation. This is emphasized by placing the 3d, which is the root of V, in the bass: the third is also the best tone to double, altho the root may be doubled: not the 5th because it has the true quality of the leading-tone, i. e., that of the 3d of V. The root of III is a substitute tone for the 5th of V and, being melodic in character, it is most frequently found in the soprano. Only where V or V_7 is the succeeding chord is it advisable to place the root in one of the middle parts; or in case the melodic leading of one of these makes itself felt more strongly than that of the soprano. Being a dominant, III_6 may be preceded by any of the chords mentioned so far; the position of these is governed by the fact that the 3d of the III must be in the bass. The succeeding chords are I or V or V_7. (When III_6 is succeeded by IV or II its character is I, as proven in the first part of this lesson.) The following examples show III_6 as a dominant formation preceded by I, IV, II, V and V_7, succeeded by I or V or V_7.



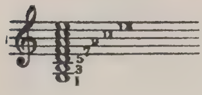
Those marked **a** and **b** show the root of III in tenor and alto respectively. At **a** both soprano and tenor are of equal value while at **b** the alto is melodically much more interesting than the soprano. The root of III being purely melodic, either as a suspension or an appoggiatura, is a tone of unrest demanding movement; in the soprano it may remain stationary, giving the impression of an anticipation of the 3d of the tonic. (See example **c.**) This is seldom good in an inner voice. At **d**, where the tenor remains stationary, the effect is rather weak.

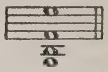
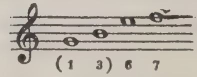
It is not always possible, in the case of the III, to distinguish the I sound from that of the V. As a rule it is safe to say that whenever the V_7 or the V is the succeeding harmony, its character is that of a suspended, or passing, or retarded V. This is true of any position of the III no matter where the root of the III is placed, as the following examples will prove.



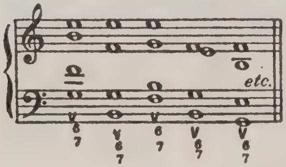
At **a** the alto and tenor movement produces parallel 5ths, but these are absolutely unobjectionable because the G♯ in the tenor is obviously a passing tone, altho the voices happen to show the chord of the III. At **b** the F♯ and A in alto and soprano of the III^6_4 do not even pass into E and G of the V_7 but skip directly into the 3d and root of I.

An important combination, much used, is that of the V_7 without the 5th—the root of the mediant being substituted for this 5th. Some of the older theorists used to name this the chord of the 13th, because it is the result of the following 3ds:

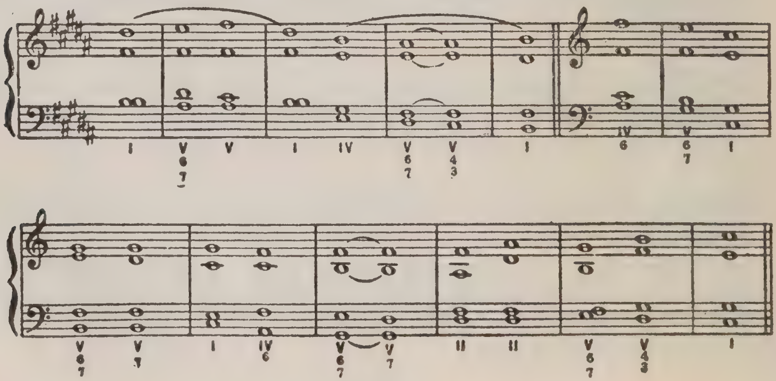


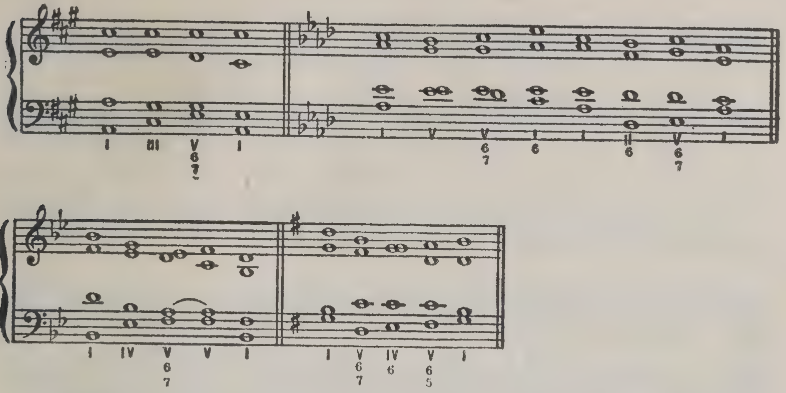
You were then told in four-part writing to omit the 5th, 9th and 11th which left . No musical ear can perceive this chord as anything but a V_7, the E being simply a substitute for D. It emphasizes still further the V character of the III, and on account of its great popularity, it deserves a name of its own. I have always called it the V^6_7 because its intervals are 

In order not to confuse the student unnecessarily with a lot of figures (this might be excusable if applied to real figured bass reading, which as we now know is not practical) I propose always to name this chord V^6_7 no matter in which inversion it is found.



The chord being a V_7 in sound is treated as such, with the proviso that, for our present purpose, it sounds best with melodic tone in the soprano. If followed by tonic the melodic tone may skip a 3d down or up, or it may remain stationary. If it is succeeded by V_7 or V the melodic tone usually passes into the 5th of the V_7 or V and under these circumstances the melodic tone may appear in any voice. The examples also contain a few exceptional progressions which, however, do not call for any specific explanation.

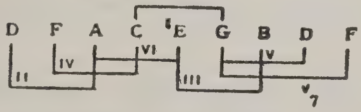




Lesson: Write a number of short examples illustrating the V character of the III including the use of V$^6_7$.

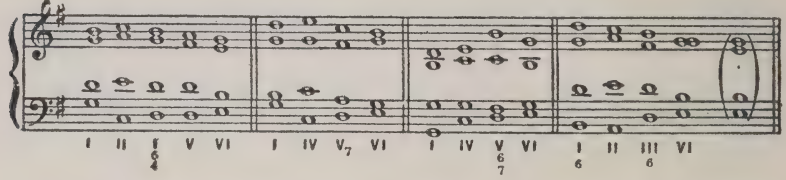
THE SUBMEDIANT TRIAD IN MAJOR KEYS

Before illustrating the possibilities of the III triad in long examples it is well to add the VI triad to our resources, because III and VI stand in I-and-V relation to each other; a relationship almost indispensable to the successful exploitation of either harmony.

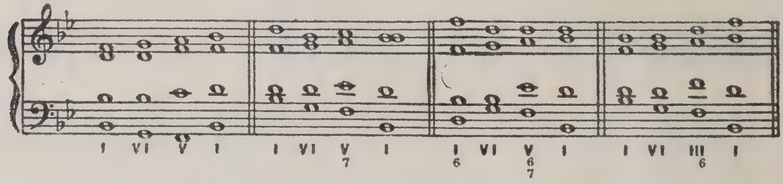


The diagram shows the submediant to be a minor triad, having two tones in common with the tonic and two with the subdominant, proving its right to substitution for either harmony. Besides, the VI, II and III furnish us with material drawn from the relative minor scale in its natural, Aeolian, form which, when used in the major tonality, adds considerable interest to the possibilities of the latter.

The tonic character of the submediant is most apparent when it is preceded by V, V$_7$, V$^6_7$ or III$_6$ because the VI is then substituted for the expected I. Such a progression used to be called a "deceptive cadence" because it was most frequently introduced toward the end of a musical thought, delaying the final ending.



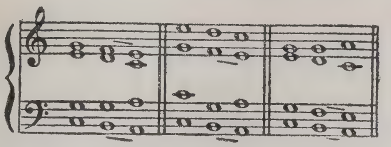
Its subdominant character is quite evident when the succeeding harmony is either V, V_7, V^6_7, or III_6.



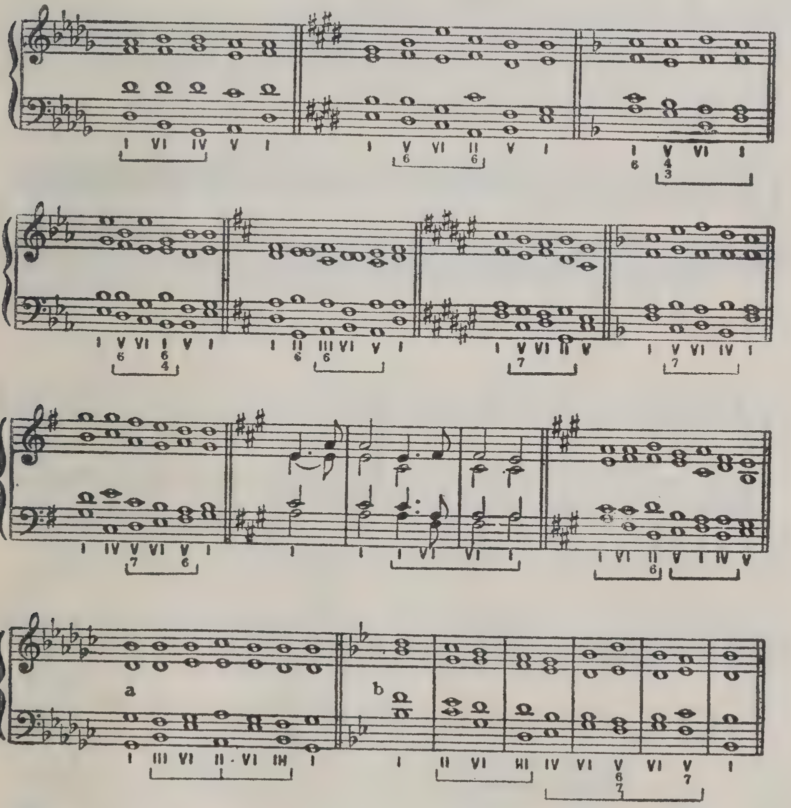
The examples cited show the tonic and subdominant character of the submediant, very distinctly. The chord is, however, so important, being the I of the relative minor tonality, that it is impossible to discriminate as to the effectiveness of any preceding and succeeding harmony; in fact, all are of equal value in the right place. It furnishes, for instance, a strong link between the I and any IV formation as some of the appended examples will show; then again, it may assume its right as an independent tonic, surrounded by its own V and IV formations (which are the III and II in the major tonality). We can therefore say that the VI may be preceded by I, III, V, V_7, V^6_7, II or IV. The order in which these chords are mentioned is, approximately, according to their effectiveness; likewise the order of the succeeding chords which are II, IV, V, V_7, V^6_7, III and I.

It should be remembered that the root position of VI is best; the inversions will be treated separately; also, that if the preceding chords are V formations in root position, including III_6, it is almost invariably best to double the 3d of VI in order to avoid parallel octaves and fifths. (By doubling the 3d, the tonic character is emphasized because the 3d is the root of the I triad.)

V^6_5 does not lend itself for leading into root position of VI on account of bad 5ths,



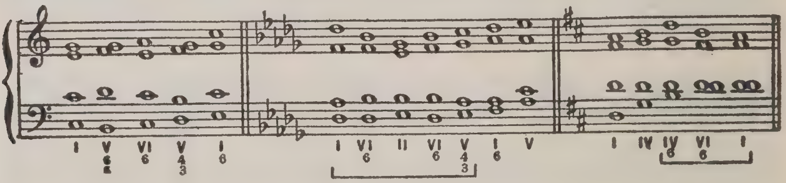
neither may V_2 be used, because it would lead to VI^6_4. V^4_3 may well lead into VI, because the 5th of the bass has a certain amount of freedom in leading, as has been shown repeatedly.

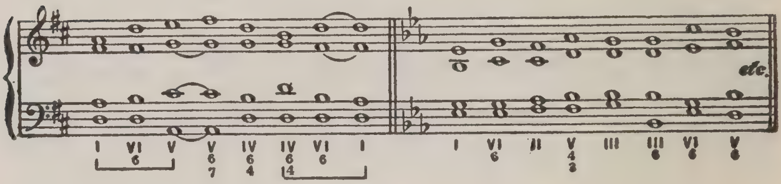

I VI IV V I
I V VI II V I
6 6
I V VI I
6 4
3
I V VI I V I
6 6
4
I II III VI V I
6 6
I V VI II V
7
I V VI IV I
7
I IV V VI V I
7 6
I
I
I VI
VI I
I VI II V I IV V
6
a
I III VI II · VI III I
b
I II VI III IV VI V VI V I
6 7
7

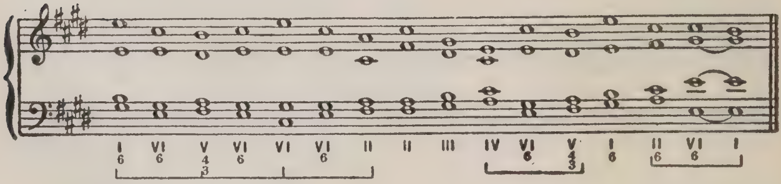
Those marked **a** and **b** draw freely on the possibilities of the minor tonality without, however, establishing a new key. It is this toying with the two modes which lends a peculiar charm to these progressions.

Lesson: The student must evolve a number of short examples out of the foregoing material.

VI$_6$ is, again, purely a melodic formation, a modification of the I; the root of the VI lies mostly in the soprano on account of its melodic character, but may, of course, be used in the inner voices. Any tone may be doubled, preferably the 3d. As this is a restricted position of VI it is possible to give the preceding harmonies in definite form. Preceding chords are: I, I$_6$, V, V$_6$, V$_7$, V$^4_3$, V$^6_5$, IV in any position, II, II$_6$, III, III$_6$. Succeeding chords are: I, V$_6$, V$^4_3$, V$^6_5$, IV, IV$_6$, II, III. The root of the submediant has a melodic tendency of downward progression but it may lead upward, in which case progressions into V$_7$ or V become feasible.

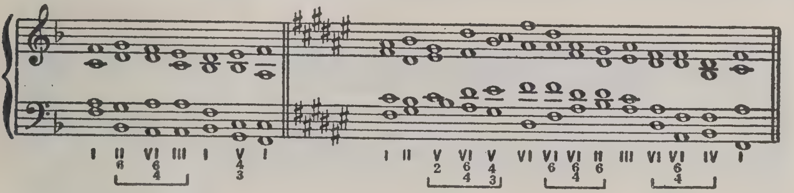

I V 6 4 VI 6 V 4 3 I 6
I VI 6 II VI 6 V 4 3 I 6 V
I IV IV 6 VI 6 I

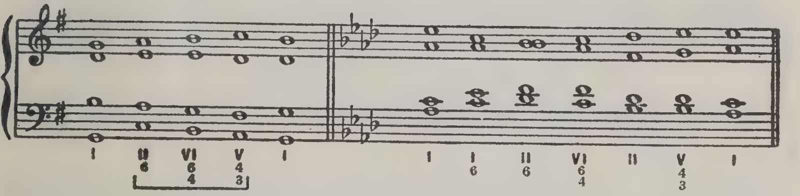

I VI 6 V V 6 7 IV 6 4 IV 6 4 VI 6 I
I VI 6 II V 4 3 III III 6 VI 6 V 6
etc.


I 6 VI 6 V 4 3 VI 6 VI VI 6 II II III IV VI 6 V 4 3 I 6 II 6 VI 6 I

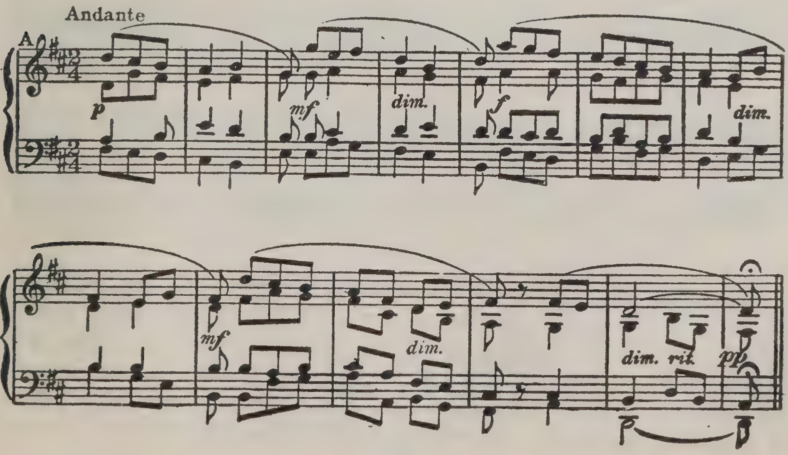
Lesson: Analyze the above illustrations and add to them. Experimenting with VI$_6$ is quite interesting.

The VI$^6_4$ is of little value in connection with our present material; it can be used advantageously only as a double suspension or as a passing harmony of purely melodic character. The appended examples do not call for detailed comment. The chord is rather difficult to introduce naturally; only where the musical thought leans toward the relative minor key does its sound seem to be in its legitimate place.

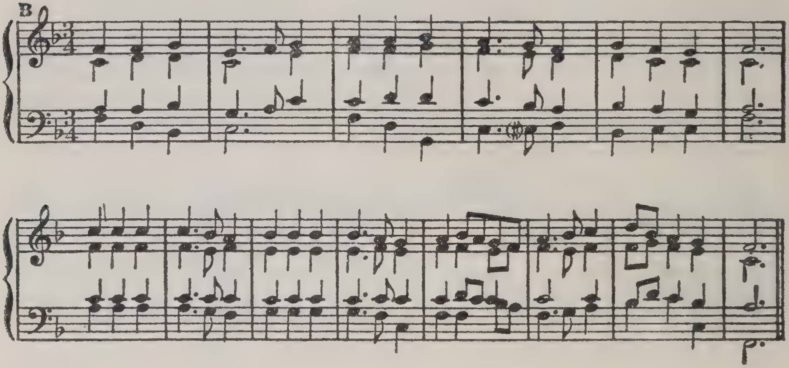

I II 6 VI 6 4 III I V 4 3 I
I II V 2 VI 6 4 V 4 3 VI VI 6 VI 6 4 II 6 III VI VI 6 4 IV I


I II 6 VI 6 4 V 4 3 I
I I 6 II 6 VI 6 4 II V 4 3 I

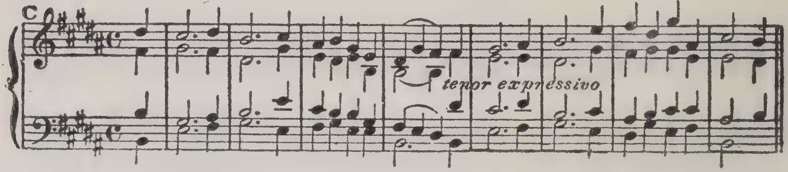
Lesson: The following long examples make use of all the harmonic material which has been considered so far. The student must supply the figuring for the examples, harmonize the given melodies, and invent a number of long examples of his own.


Andante
A
p
mf
dim.
f
dim.
mf
dim.
dim. rit.
pp

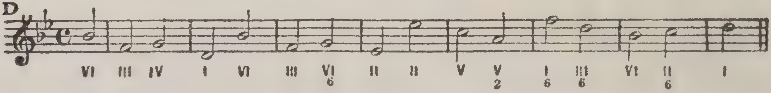
B



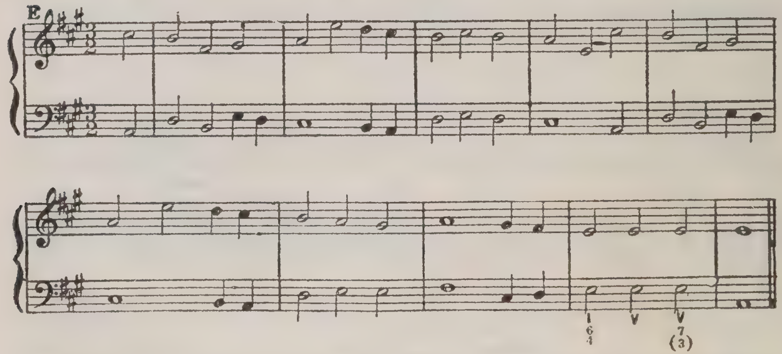
C


tenor expressivo

D

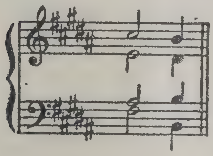

VI III IV I VI III VI 6 II II V V 2 I 6 III 6 VI II 6 I

E



The little melody in D major (**A**) needs a few explanations. In measure five, the leading of the bass and tenor seems faulty because the tenor skips from D to A, which is lower than the previous bass tone, B. But in this instance the consistent employment of 3ds takes precedence over the rule and the effect is most satisfactory. In measure 8 the last chord is IV without its 5th; this also is a concession to the more effective progression of 3ds in the lower voices. Example **B** has been inserted to show the application of the principle that "any chord finds its natural progression into a harmony whose root lies a fifth below"; observe the progression of VI into II and II into V or I^6_4 (the latter being merely a suspension of V) in the first 6 measures.

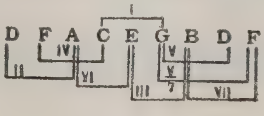
Of interest in example **C** is the fact that the tenor, beginning in measure 4, imitates the soprano melody of the first phrase; the last measure contains a suspension of V_7 in the upper voices over the root of I in the bass. This effect is much stronger than if the bass had retained the F♯. There is no reason why the student should not occasionally use such effects, provided they fit naturally into the musical thought. The experienced teacher will know how far he may permit such liberties.



Lesson: Examples **D** and **E** must be filled in according to the indicated harmonies, and other examples added by the student. It is self-evident that it is always more difficult to harmonize some one else's melodic thoughts than one's own. The composer has invariably a certain harmonization of his melody in mind; this can, at best, only be guessed by some one else, unless he himself is an experienced writer. I always hesitate to give students melodies for harmonization unless I indicate the harmonies I have in mind. The best proof of a complete understanding of the problems presented in the lesson is for the student to invent his own examples.

It is absolutely necessary that every example be played with correct phrasing and shading. Never play **anything** indifferently; what is worth playing is worth playing well! The sense of certain harmonic progressions frequently governs artistic interpretation. To make my meaning clear I have indicated phrasing and shading in example **A**.

THE TRIAD ON THE LEADING-TONE OF THE MAJOR SCALE



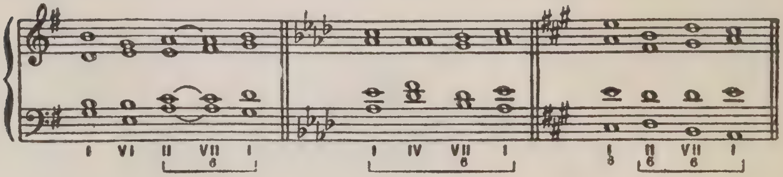
It will be noted at once that the chord is really nothing but the V_7 without its root and belongs therefore to the V formations. It is composed of root, min. 3d and dim. 5th, hence a diminished triad. Diminished triads might be called elliptic formations; they are parts of seventh chords and their possibilities are rather limited.

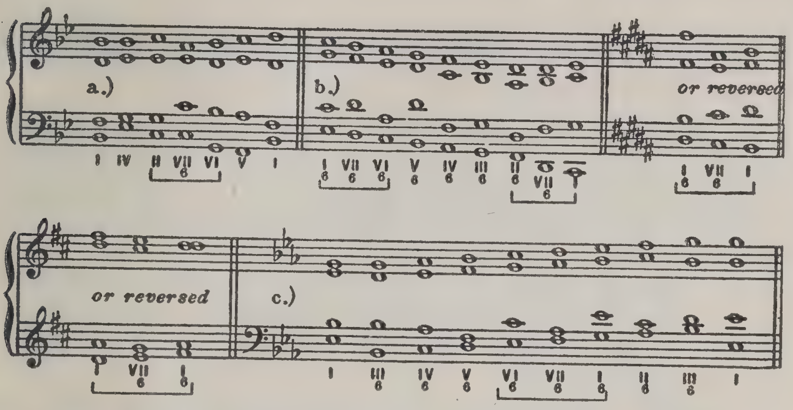
There are indeed few places where the leading-tone triad may be used legitimately, its chief claim to consideration being that, if succeeded by the I triad, all of its intervals progress diatonically. Movement is the principle of counterpoint; hence the VII° is quite at home in the compositions of the contrapuntalists and we might almost say that it is an old-fashioned chord which, when used in its rightful and natural place, produces an ecclesiastical effect. As the chord is without a real root, its best position is with the 3d in the bass. This 3d, being the 5th of the V and second in importance in the overtone series, acts as the natural substitute for the absent root. Root position and $^6_4$ inversions of the VII° are of no value in good four-part writing (both might occur in sequences and are quite possible in three-part writing); they will not be considered available and our examples deal exclusively with VII°_6.

Either 3d or 5th may be doubled, but not the root, being the leading-tone.

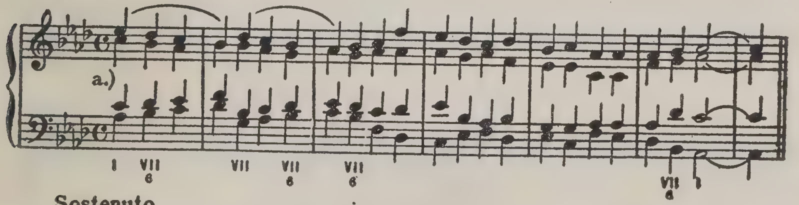
The preceding chords comprise IV, IV_6, II, II_6, I, I_6, VI, VI_6. The succeeding chords comprise I, I_6 and possibly the VI or VI_6.

The VI as preceding or succeeding chord is accounted for by the fact that VII stands in relation of II to VI as I and if these progressions are resorted to they again emphasize the fact that VI in major is I in the relative minor. A few illustrations will suffice to prove the limited possibilities of the leading-tone triad.

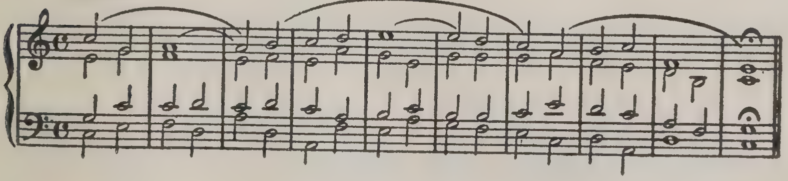


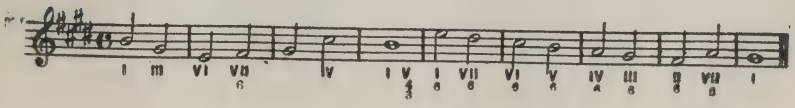

a.)
I IV II VII 6 VI V I
b.)
I 6 VII 6 VI 6 V 6 IV 6 III 6 II 6 VII 6 I
or reversed
I 6 VII 6 I
or reversed
I VII 6 I 6
c.)
I III 6 IV 6 V 6 VI 6 VII 6 I 6 II 6 III 6 I

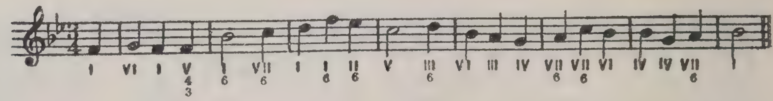
At a the relative minor key is strongly represented but, as has been pointed out before, such ambiguity lends charm to the major tonality. Examples b and c, of beloved memory (because they are met in every old-fashioned harmony textbook) have simply been inserted for their old-fashioned sound. It stands to reason that if examples are composed of successive "chords of the 6th", based on scale progression, we must run across VII$_6$ somewhere.


a.)
I VII 6 VII VII 6 VII 6 VII 6 I

Sostenuto




I III VI VII 6 IV I V 4 3 I 6 VII 6 VI 6 V 6 IV 6 III 6 II 6 VII 6 I


I VI I V 4 3 I 6 VII 6 I I 6 II 6 V III 6 VI III IV VII 6 VII 6 VI IV IV VII 6 I

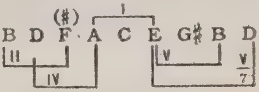
It may be noticed that every one of the long examples has a rather churchly effect, which is premeditated. The example at a abounds in 3ds moving in contrary motion and on account of these some oddities arise. The second chord, marked VII_6, does not even contain the root; it is in effect a passing V formation. The fifth chord is a VII triad in root position, the result of the sequential character of the two phrases. The example in C major is rather stately and dignified and quite impressive, even to our modern ears.

Lesson: The student must again supply some short and some long examples of his own, besides harmonizing the two melodies provided. Remember to analyze everything carefully: use the leading-tone triad very sparingly. In future lessons introduce it only when no other harmony will be quite as satisfactory to **you.**

SECONDARY TRIADS IN THE MINOR TONALITY

These chords add even greater variety to the harmonic coloring of musical thoughts in minor than in major keys, on account of the possible variations of the minor scale.

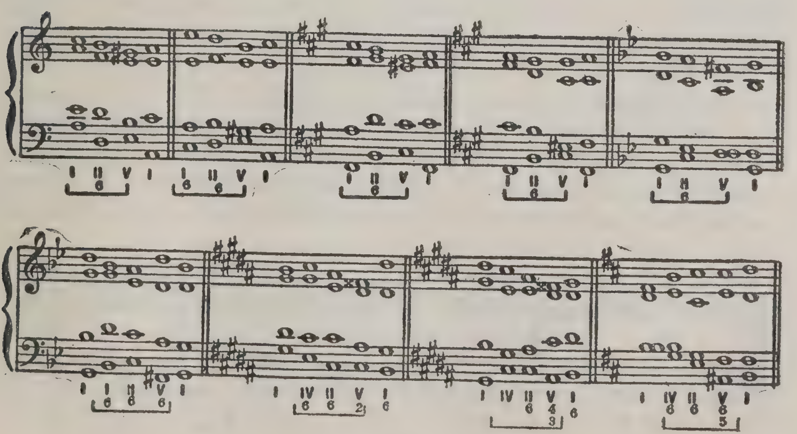
THE TRIAD ON THE SUPERTONIC

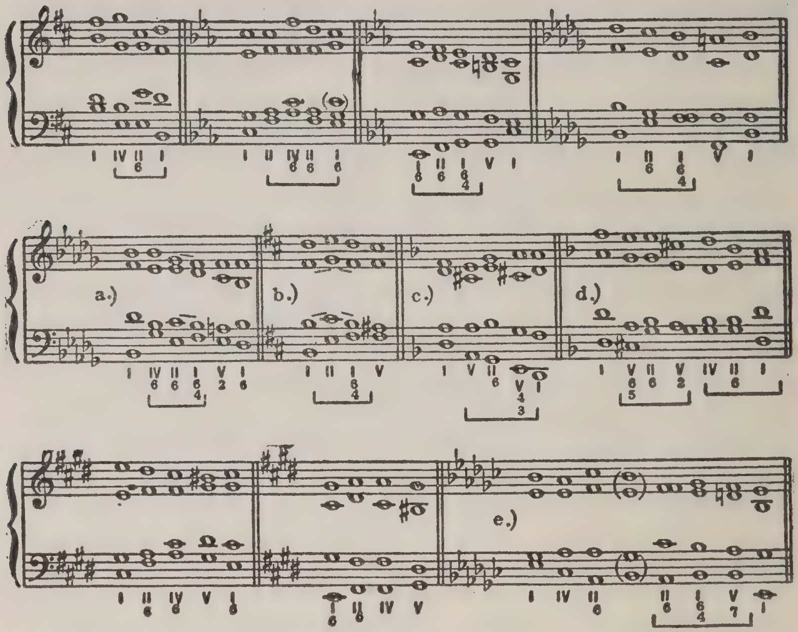


It will be seen that this is, as in major, a modification of the IV idea—formed by adding the 3d below—as part of the IV triad. It is a diminished triad, identical with the chord on the leading-tone in major, but of opposite character. In major it was a V_7 without root (G)-B-D-F, a dominant formation; in minor it is B-D-F-(A)—an extension of the IV with the 5th of IV omitted; hence, first of all, a subdominant formation. Its most effective position is its 1st inversion with D, the root of the IV, in the bass. Any of its tones may be doubled, preferably its 3d, but the choice must be governed by the leading of the voices. The following lesson deals, exclusively, with the possibilities of II_6.

With the harmonic material now at our disposal II_6 may be preceded by IV_6, IV, I, I_6. The V and V_7 as preceding chords are of no value, because the triad B-D-F is part of the V_9, E-G♯-B-D-F and if such a progression were used its effect would be that of substituting an unimportant part of the V_9 for the V triad or V_7, both of which are much stronger V formations on account of the presence of the G♯.

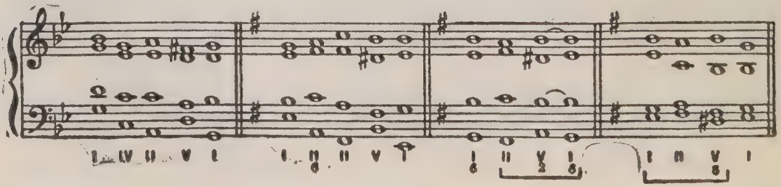
The succeeding chords for II_6 are V, V_6, V_7 in any position, I^6_4; possibly IV, IV_6, I or I_6. The leading of the intervals is much more restricted than in major. In major keys, the fifth of the II could ascend or descend when the succeeding chords were V or V_7; in minor the 5th of II can only descend into the root of V or V_7. If it were led upward into the 3d of V, a very awkward step of an augmented 2d would result. It must be remembered that the root of II is best led into the 3d of V or V_7, because it takes the place of the 5th of IV. (See rules on II in major keys.) But the rule is not absolute, as the following examples, which must be carefully analyzed and played, will readily prove. It is also best to lead the root of II into 3d of I, if I in root position is the succeeding chord; the effect which the progression of II_6 into I produces is that of a plagal ending.

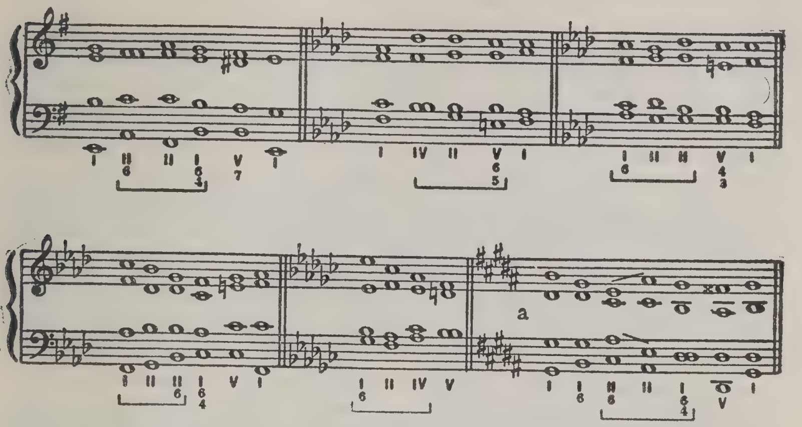




Those marked **a** and **b** show parallel fifths. These are to be excused on the same grounds as those in major. Ex. **e** shows that they can be avoided, if the position of II_6 is changed. Examples **c** and **d** prove that V or V_7 may be used as preceding chords, but there is little need of such progressions, for reasons given above.

It is possible to use the root position of II, altho it is not very frequently met with. It sounds best as an intensified subdominant, i. e., preceded either by IV or II_6. There are instances where it is preceded by I or I_6, but they are rare. The succeeding harmonies are V, V_6, any position of V_7, II_6, IV or I^6_4.





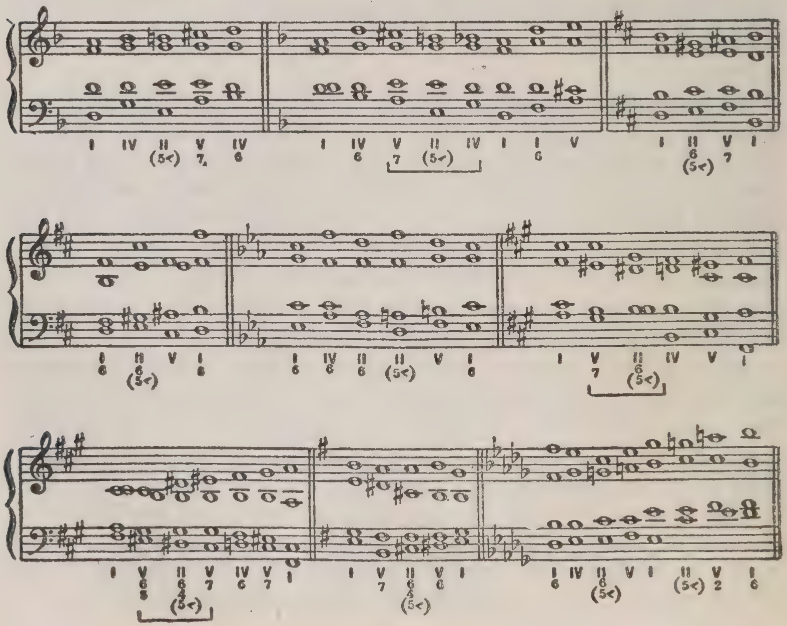
It will be proven later that the use of the II triad in root position is almost unnecessary, as one may substitute the II$_7$ to much greater advantage. The example at a I have inserted on account of the steps of aug. 4ths occurring simultaneously in soprano and tenor; they are permissible because the harmony does not change, only its position.

The $\frac{6}{4}$ inversion of II° is of no value except in three-part writing.

It is possible to use the II triad in minor with raised 5th; it is then constructed according to the ascending melodic form of the scale and becomes a pure minor triad. This chord in the key of A minor is B-D-F♯. While a comparative stranger in modern harmonizations, it is frequently met with in Bach's and his contemporaries' compositions. There is no reason why it should not be more freely introduced in modern thought; it would provide pronounced strength to the voice leading, and its quaintness of sound is rather interesting.

It must be borne in mind that the raised 6th is introduced into the minor scale in order to afford smooth progression into the raised 7th, thus avoiding the augmented 2d. It is therefore best to have F♯ in A minor succeeded by G♯ or F♮, but seldom by E because we use F♮ mostly for that purpose. While F♯ is best preceded by E, it may also be preceded by F♮ or G♯. In fact, skips into F♯, particularly from above, are by no means rare. It is therefore possible to have II$_{5<}$ preceded by I, IV, V, V$_7$, and II with natural 5th, and succeeded by V, V$_7$, IV, possibly by II with natural 5th, but not by I, because there is no logical leading of the raised 5th into any of the intervals of the I triad. The II$_{5<}$ may be used in any position; it is best to avoid, at present, doubling the raised tone, except when II$^6_4$ is used, where one of the 5ths ascends while the other descends. The $^6_4$ inversion is subject to the same rules as II$^6_4$ in major keys.

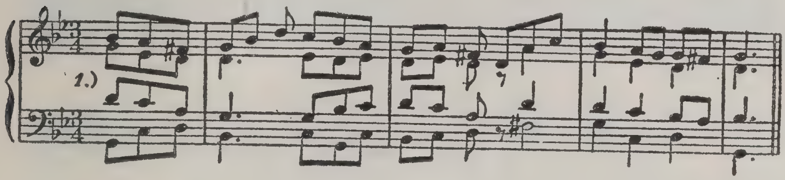
I shall make no attempt to specify the different positions of the preceding and succeeding harmonies; the voice-leading must be the guide. If the student wishes to indicate the use of the raised 5th in his analysis he may do it in the following way II$_{5<}$, II$^{6}_{(5<)}$, II$^6_{4(5<)}$. As mentioned before, I attach little importance to details of figuring. The student can only prove his comprehension of the matter by illustrations of his own invention, which, if well done, will be the means of constantly developing his musical perceptibilities; this, after all, is of greater value to him than to "figure" correctly chords which have little meaning to him as sounds. **Learn to listen!** A few examples will be ample to illustrate the use of the supertonic triad with raised fifth.

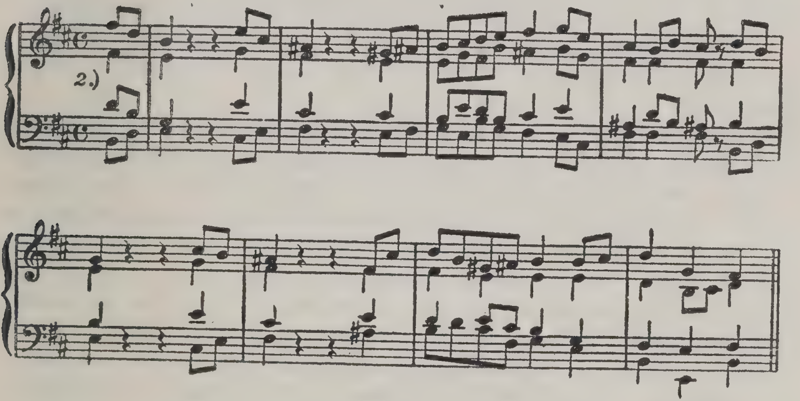


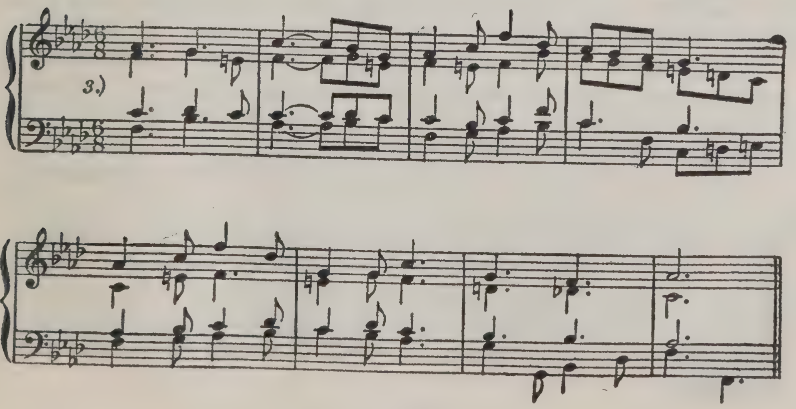
I IV II (5<) V 7 IV 6
I IV 6 V 7 II (5<) IV I I 6 V
I II 6 (5<) V 7 I
I 6 II 6 (5<) V I 6
I 6 IV 6 II 6 II (5<) V I 6
I V 7 II 6 (5<) IV V I
I V 6 5 II 6 4 (5<) V 7 IV 6 V 7 I
I V 7 II 6 4 (5<) V 6 I
I 6 IV II 6 (5<) V I II (5<) V 2 I 6

Lesson: Write a number of short examples showing first the use of II as a diminished triad and then as a minor triad.

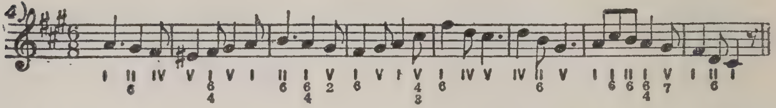
Analyze the furnished examples 1, 2, and 3; set 4 and 5; and invent a few of your own.



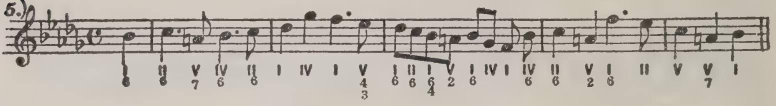




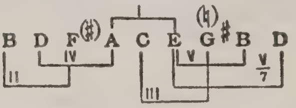
4.)



5.)



THE MEDIANT TRIAD IN MINOR KEYS



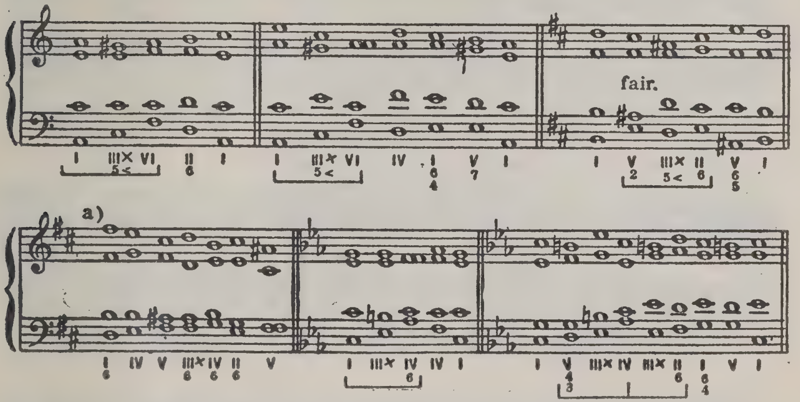
This chord occurs in two forms: as an augmented triad, C-E-G♯ or as a major triad C-E-G♮; to be indicated by $III_{5<}$ and III.

It seems hardly necessary to draw attention to the fact that the major form is vastly more important than the augmented. This is true, at least, at the present stage of our study of harmonic material; later on, when altered chords are the problem to be dealt with, due consideration will be given all chords with raised 5ths. The analysis of the III triad proves, again, the fact that the use of the raised 7th of the minor scale is justified and necessary only where it is a part of a V formation; in all other combinations the natural 7th should have the preference.

Only as a concession to systematic order and out of respect to tradition, the possibilities of the III as an augmented triad will be mentioned briefly.

It is part of a deformed I_7, (A)-C-E-G♯, with root omitted and the I character is most evident when it is succeeded by such IV formations as IV, II or VI. As a matter of fact, VI is the natural chord of resolution because the root of III stands in V relation to the root of VI and there is no reason for omitting VI here, altho further on it will be described specifically. (For the present the VI is to be succeeded by IV or II.) Progressions into IV or II can be accomplished by some more or less ingenious voice-leading, leadings which will be comprehended more fully when the I_7 chord is explained. At present the student must investigate the use of $III_{5\wedge}$ as illustrated in the short examples.

The preceding chords for $\text{III}_{5<}$ when it has I character are I, V, V_7, VI.

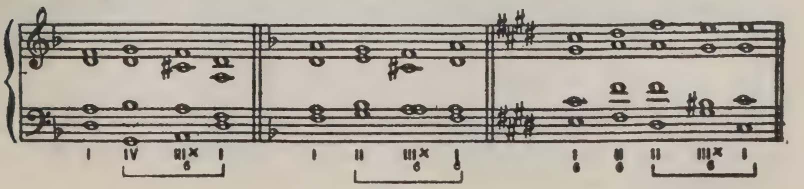

I III× VI II I
5< 6
I III× VI IV I V I
5< 6 7
4
fair.
I V III× II V I
2 5< 6 6
5
a)
I IV V III× IV II V
6 6 6 6
I III× IV IV I
6
I V III× IV III× II I V I
4 6 6
3 4

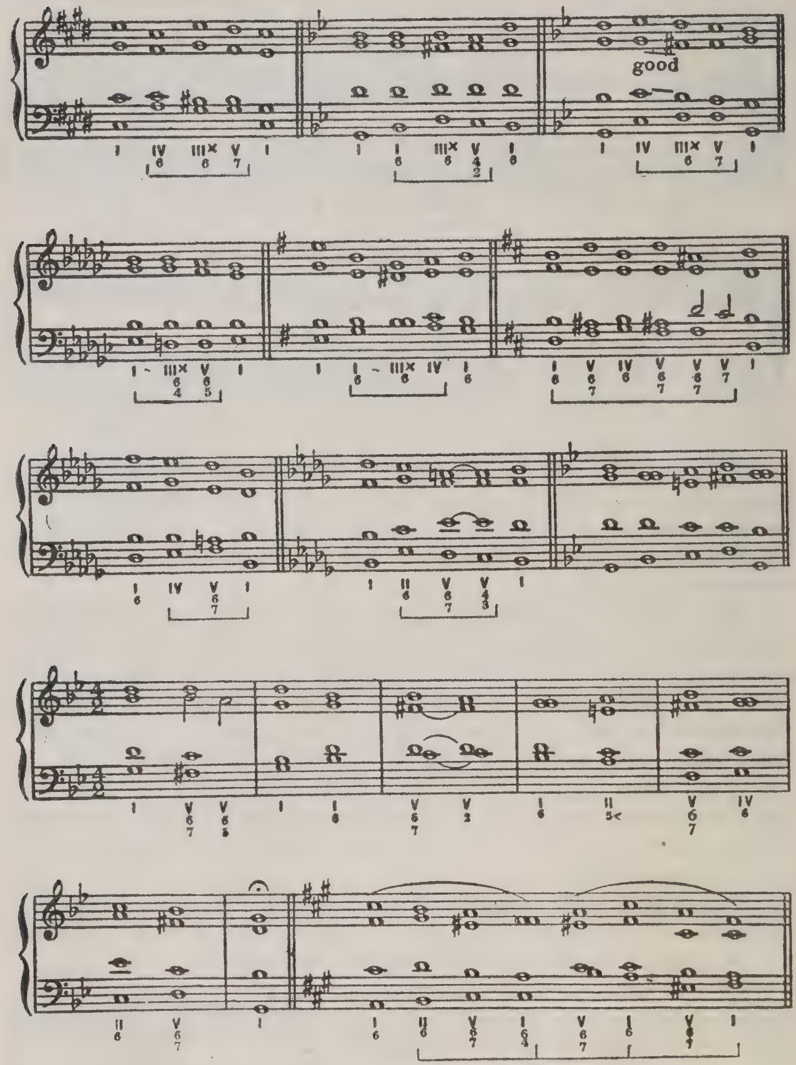
Most of the above examples sound rather far-fetched, except where progression is made into VI. The character of III in the example marked a is rather doubtful. If F♯ had been doubled instead of D it would have been strongly V even tho succeeded by IV.

The III with raised 5th, used as a V formation, is perfectly legitimate. The advice regarding its use is the same as given for the III as a V formation in major. Read carefully what was said about it and apply it here. For ready reference the preceding and succeeding chords are once more appended. Preceding chords for $\text{III}_{5<}$ as V formation comprise I, IV, II, V, V_7. Succeeding chords comprise I, V, V_7. If the succeeding chords are IV or II, the character of III is then usually I but may be either I or V, because even V may be succeeded by IV formations.

The V_7^6, a combination of V_7 and III, has also been fully described in the major tonality. Nothing further need be added.

Study and listen to the appended examples:


I IV III× I
6
I II III× I
6 6
I II II III× I
6 6 6


good
I IV 6 III× 6 V 7 I
I I 6 III× 6 V 4 2 I 6
I IV III× 6 V 7 I
I ~ III× 6 4 V 6 5 I
I I 6 ~ III× 6 IV I 6
I 6 V 6 7 IV 6 V 6 7 V 6 7 V 7 I
I 6 IV V 6 7 I
I II 6 V 6 7 V 4 3 I
I V 6 7 V 6 5 I I 6 V 6 7 V 2 I 6 II 5< V 6 7 IV 6
II 6 V 6 7 I
I 6 II 6 V 6 7 I 6 4 V 6 7 I 6 V 6 7 I

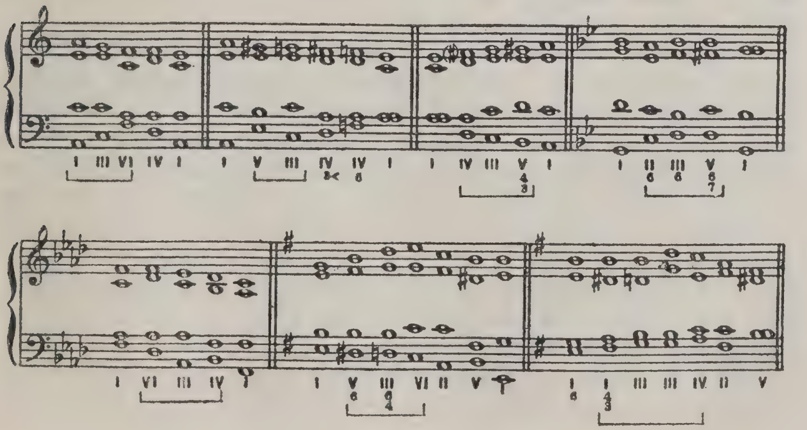
Lesson: Furnish a few additional examples, showing $III_{5<}$ first as a I formation and then as a V formation; also give a few illustrations of V^6_7.

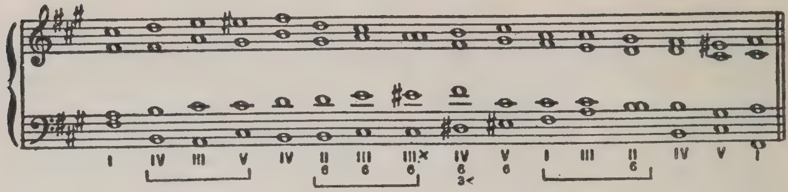
THE MEDIANT TRIAD IN MINOR WITH NATURAL FIFTH

This, as mentioned before, is a major triad; in fact it is the I triad of the relative major key but may be used very effectively in the minor tonality.

There is no doubt that it, also, must be regarded as I_7 (A)-C-E-G, with root omitted, but its sound is so independent that it connects well with any harmony of the minor tonality. Yet, certain restrictions may well be observed. First of all, it should be realized that its 5th is the 7th of the descending melodic form of the minor scale and in the key of A minor, for instance, the G leads best into F, tho it may also lead into G♯ or even F♯. While it is best to have the G preceded by A, there is no reason why it may not be preceded by G♯, F or F♯. If a voice skips into G from above, the best succeeding tone is G♯; if from below, either F or F♯—but this is not an absolute rule. If it were the 5th of the I triad of C major its use would be unrestricted, but in order to make it a part of the minor tonality, it must conform to that rule which governs the leading of the alterable tones.

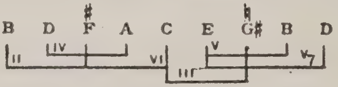
The chord sounds best in root position but both inversions may be employed; any of its tones may be doubled; preferably perhaps, the root. The preceding chords are I, IV, V, V_7, VI, II. (The II stands in relation of leading-tone triad to this III.) The succeeding chords are VI, IV, II, V, V_7, $IV_{3<}$, V^6_7, $III_{5<}$; the last only as a V formation, i. e., $III^6_{(5<)}$.





Lesson: Illustrate III with natural 5th in short examples. Do not forget that II, in minor, may not be used in root position, except if preceded by IV or II$_6$. If the succeeding chord is III with natural fifth, it stands to reason that the root of II must not be doubled, because it is then the leading-tone of the relative major key.

THE TRIAD ON THE SUBMEDIANT IN MINOR



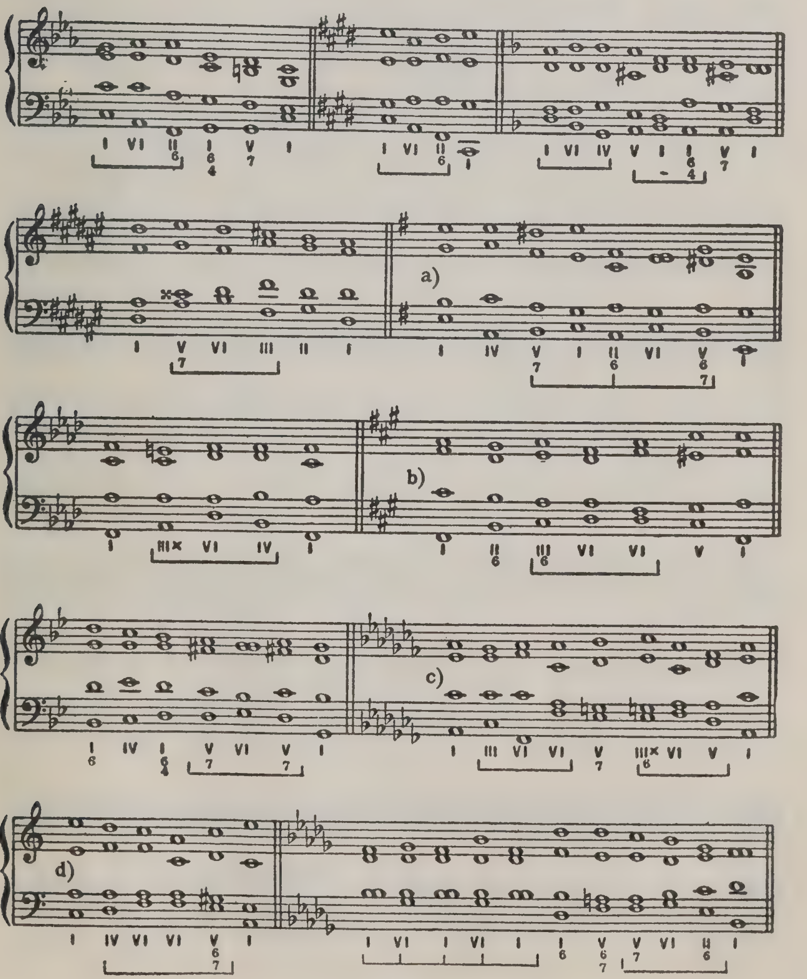
This triad is a major chord. In the major tonality this harmony was identical with the I of the relative minor key, a very close relationship, but in minor I and VI are not nearly so closely related—yet the VI is used with the same freedom as in major. I pointed out the fact that the secondary triads in major emphasize strongly the relative minor tonality, with the VI as the I. In the minor tonality similar conditions exist, the secondary triads furnishing the most essential components of the major tonality, with this difference, however, that the III instead of VI represents the I.

From the time the dual tonality, the major and relative minor keys, became the foundation of all harmonic thought (see chapter on scales), the actual relationship of the chords to each other has been disregarded. Composers have invested the chords of the relative minor tonality with the same qualities as those in major, regardless of their actual relationship. In consequence, a forced, man-made rather than natural system has ensued.

And this perverted consistency has been altogether delightful, resulting in that charm which has given the minor tonality its peculiar distinction.

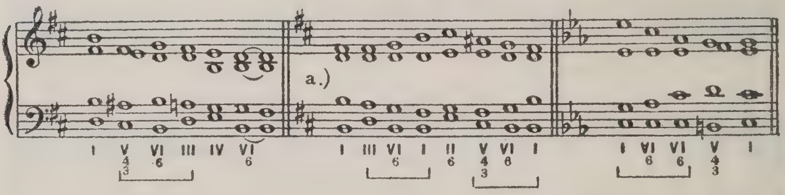
The VI triad is therefore subject to the same rules as in major. It is used either in place of I or IV or as an intermediary between I and IV. The root position is by far the most effective; the inversions are possible. Preceding chords for the root position are I, V, V_7, $III_{5<}$, III, IV. II as a preceding chord is of little value, but may occur.

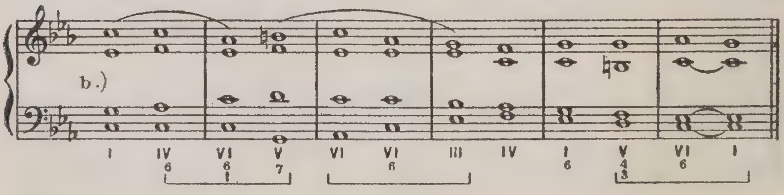
The succeeding chords are: II, IV, V, V_7, III in either form, or I.

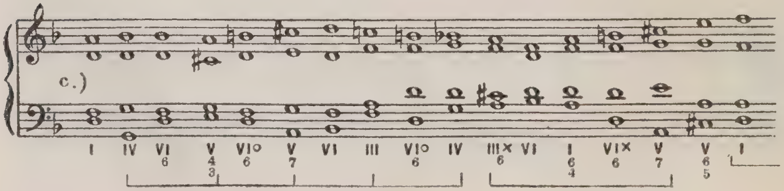

I VI II 6 I 6 4 V 7 I
I VI II 6 I
I VI IV V I I 6 4 V 7 I
I V 7 VI III II I
a)
I IV V 7 I II 6 VI V 6 7 I
I III× VI IV I
b)
I II 6 III 6 VI VI V I
I 6 IV I 6 4 V 7 VI V 7 I
c)
I III VI VI V 7 III× 6 VI V I
d)
I IV VI VI V 6 7 I
I VI I VI I I 6 V 6 7 V 7 VI II 6 I

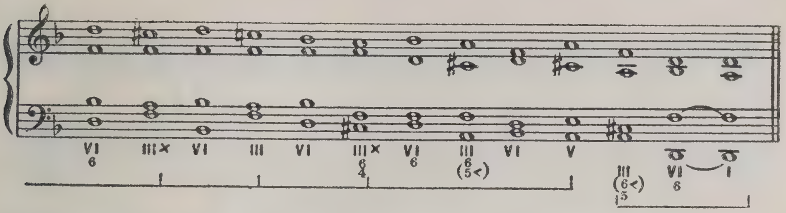
Observation of the voice-leading will reveal the fact that, whenever V formations precede or succeed the VI, the 3d of the latter must be doubled; otherwise aug. 2ds, parallel 5ths and octaves will result. The need of this doubled 3d necessitated the successive use of VI in the examples **b**, **c** and **d**. Ex. **a** shows II$_6$ as a preceding chord; the effect is only fairly good. In Ex. **c** the second chord is the mediant, with natural 5th—G♭. According to the A♭ minor scale this G♭ should have been led to F♭; as this was not done, the beginning sounds strongly F♭ major (which may be a desired effect), but further on the A♭ minor is definitely re-established.

VI$_6$ has only melodic value; the root lies most frequently in the soprano. The preceding chords are: I, any V formation, IV, III with natural or raised 5th. The succeeding chords are the same, because it must be remembered that VI$_6$ has exclusively I character and the use of I knows no restrictions. The positions of the chords must be the result of good voice-leading.


a.)
I V 4 3 VI 6 III IV VI 6
I III VI 6 I II 6 V 4 3 VI 6 I
I VI 6 VI 6 V 4 3 I

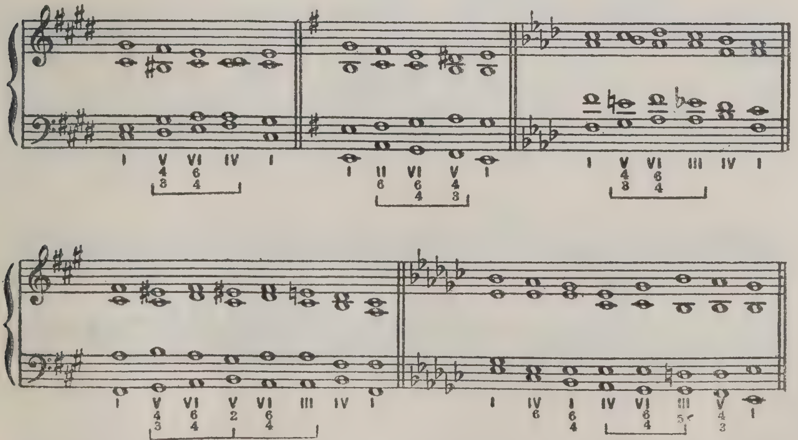

b.)
I IV 6 VI 6 V 7 VI VI 6 III IV I 6 V 4 3 VI 6 I


c.)
I IV VI 6 V 4 3 VI○ 6 V 7 VI III VI○ 6 IV III× 6 VI I 6 4 VI× 6 V 7 V 6 5 I

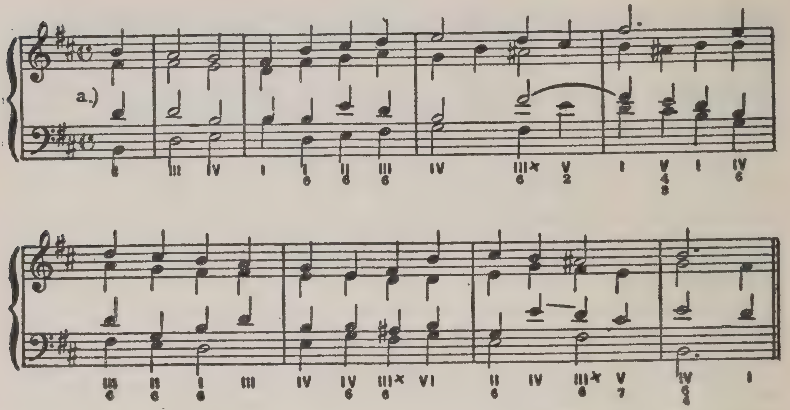

VI 6
III×
VI
III
VI
III× 6 4
VI 6
III 6 (5<)
VI
V
III (6<) 5
VI 6
I

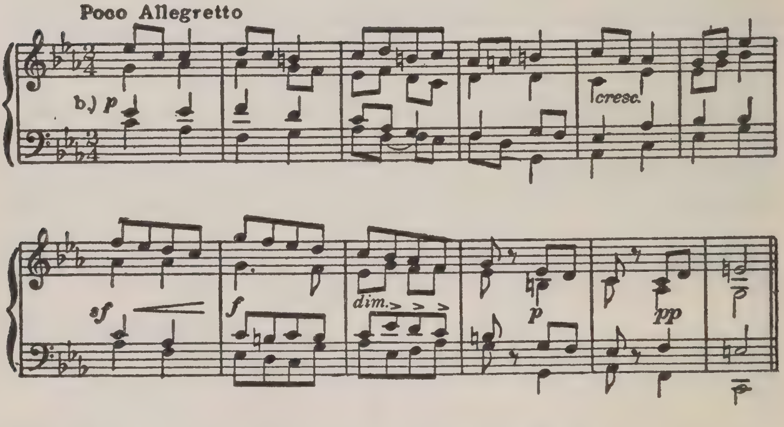
Example **a** contains an augmented 2d which sounds well because the G is merely an appoggiatura to F♯, proving, emphatically, the non-harmonic character of VI$_6$. The augmented 2d in example **b** comes between motives, hence is permissible. The extended example at **c** shows another possible form of the VI, the so-called root being the raised 6th of the scale, which is nothing but a passing-tone, incidentally forming a diminished triad. Its true character is, of course, a modified I and it is only used with the 3d, the I of the key, in the bass. The raised 6th of the minor scale must be treated as mentioned in the lessons on II and IV in minor. Mark this chord VI°.

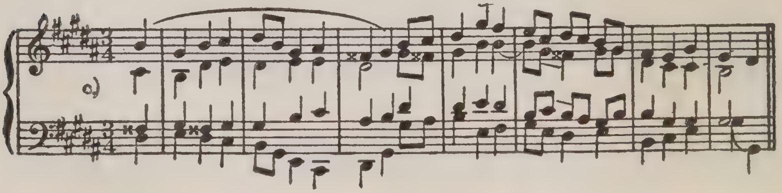
The VI$^6_4$ possibilities are set forth in the following illustrations; their harmonic value is nil, but if the $^6_4$ inversion is the result of interesting voice-leading, it must be taken into consideration.

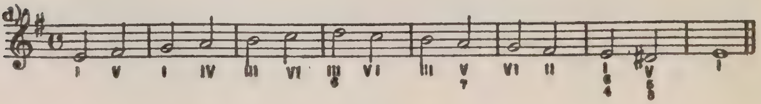

I
V 4 3
VI 6 4
IV
I
I
II 6
VI 6 4
V 4 3
I
I
V 4 3
VI 6 4
III
IV
I
I
V 4 3
VI 6 4
V 2
VI 6 4
III
IV
I
I
IV 6
I 6 4
IV
VI 6 4
III 5<
V 4 3
I

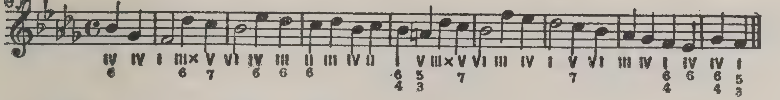
The student should use VI$_6$ and VI$^6_4$ sparingly, but the root position freely.


a.)
I III IV I I 6 II 6 III 6 IV III× 6 V 2 I V 4 3 I IV 6
III 6 II 6 I 6 III IV IV 6 III× 6 VI II 6 IV III× 6 V 7 IV 6 4 I


Poco Allegretto
b.) p
cresc.
sf
f
dim.
p
pp


c)


d)
I V I IV III VI III 6 VI III V 7 VI II I 6 4 V 6 5 I



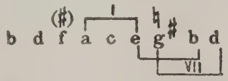
In Ex. **a** the parallel fifths in the second measure from the end are, of course, unobjectionable, as the D in the tenor is only a passing-tone. The beginning of the 2d phrase in Ex. **b** sounds strongly E♭ major, the result of VI progressing into III with natural fifth. In measure seven, the "ear" hears parallel fifths, because F and D, in the soprano, produce the effect of melodic embellishments to E♭ and C; they are not noticeable to the eye and are excusable for the reason that the harmonic character of the whole measure is that of IV, the VI and II on 2d and 3d eighths being merely incidental. The accents in measures 9 and 10 give melodic emphasis to the tenor part. The harmonic contents of the last two and a half measures is based on the idea of the deceptive cadence and the final ending on the C major triad carries it to a logical conclusion.

In example **c** the indicated fifths are of the same character as those in example **a**.

It is not always possible to indicate clearly which of the triads is to be employed; the choice must, in many cases, be left to the student working out the given melodies; he must be governed by the leading of the voices. In example **d**, for instance, all the III triads sound best with natural 5th; while in example **e** some sound better in their augmented form, altho even there it is largely a matter of taste.

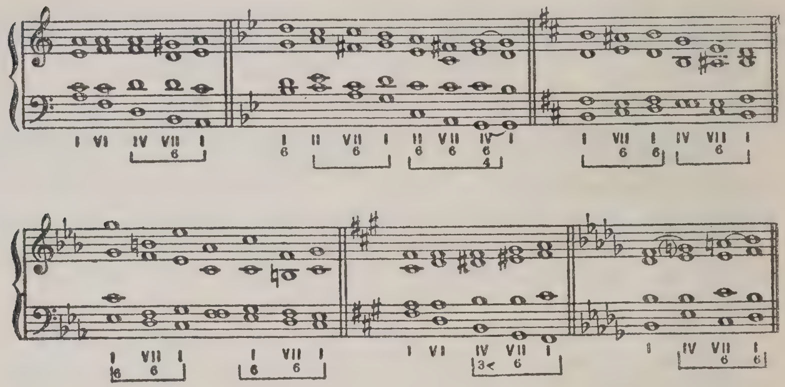
Lesson: Be sure to play the examples over; not once but several times, in order to impress the sound on the mind. Invent a number of similar musical thoughts.

THE TRIAD ON THE LEADING-TONE IN MINOR



It is the same constellation as in major, a diminished triad, a V_7, without root, belonging to the V formations.

Its usefulness is very limited: only the first inversion is available—with either third or fifth doubled, preceded by IV, II_6, I or I_6, and succeeded by I, I_6, possibly by IV. Some interesting voice-progressions may be obtained by using IV$_{3<}$ or II$_{5<}$ as preceding chord. Whatever value the chord possesses has been set forth in its use in the major tonality. Read it over.



THE TRIAD ON THE SUBTONIC IN MINOR

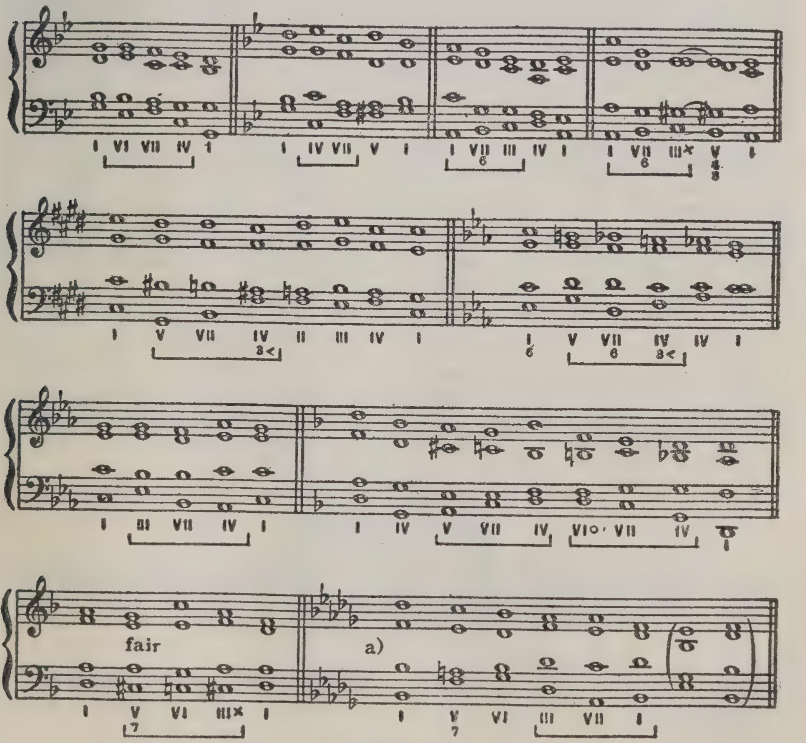
This harmony is formed on the 7th degree of the descending melodic form of the minor scale, a major triad. When we compare the harmonic framework of the major and its relative minor key, we observe that in major the secondary triads represent the minor tonality in its Aeolian form and the secondary triads of the Aeolian minor scale represent the relative major key. It is quite possible to produce the harmonic effects of the relative minor key in major and those of the relative major key in minor. They are perfectly legitimate and desirable as long as the points of repose—the cadences of phrases—show distinctly the relationship of these triads to the tonality of the composition.

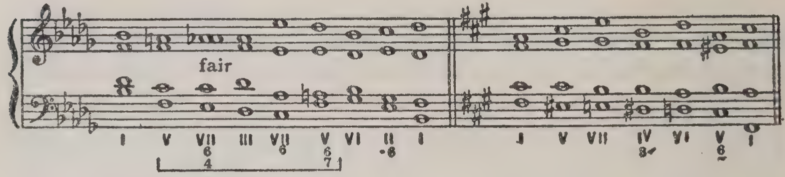
With the introduction of the G major triad in the key of A minor, the series of primary triads of the relative major key is complete. Such harmonic progressions as IV-VII-III should be avoided at the end of phrases because they no longer represent the minor tonality.

(In the analytical figuring of the triads on the 7th degree of the minor scale, the little zero-mark indicates the diminished triad on the leading-tone—VII°; without this mark the subtonic must be considered its root—VII.)

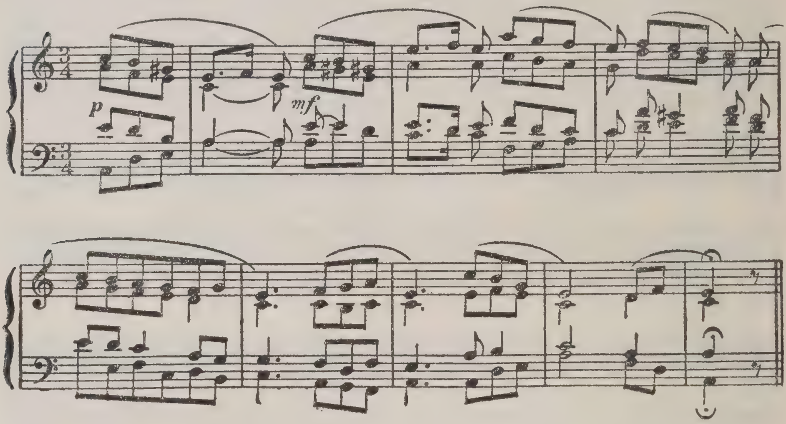
VII is perhaps most effective in root position, but there is no reason why VII$^6_4$ or VII$_6$ should not be used; any of its intervals may be doubled, preferably the root. It must constantly be borne in mind that the root is the 7th of the descending melodic minor scale and that, therefore, the best preceding tones for G in A minor are A, F, F♯, and G♯. This does not exclude the possible skips into G. The best succeeding tones are F, G♯, F♯ sometimes even A; G may also be a common tone.

This enables us to have VII preceded and succeeded by any chord of the key mentioned, so far, with the possible exception of II and VII°, for obvious reasons. A progression of VII into I, as well as VII into III, will seldom be met with, as it emphasizes the fact that VII is the V of the relative major key and might tend to establish this key strongly, which cannot be our object at present. Neither will a progression of III$_{5<}$ or V$_7$ into VII produce very satisfactory results.

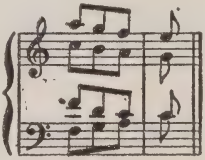

I VI VII IV I
I IV VII V I
I VII III IV I
6
I VII III× V I
6
4
3
I V VII IV II III IV I
3<
I V VII IV IV I
6
6
3<
I III VII IV I
I IV V VII IV VI° VII IV I
fair
I V VI III× I
7
a)
I V VI III VII I
7



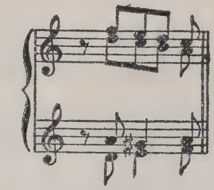
The only example showing a progression from VII to I is the one marked a; its sound suggests D♭ major very strongly unless the chords in parentheses are added, which restore the minor tonality.



The skips in the inner voices in the third measure of this example are intentional; their excuse is, first, division of motives; then, again, if thought for different combinations of instruments, this motive might be given to the strings,

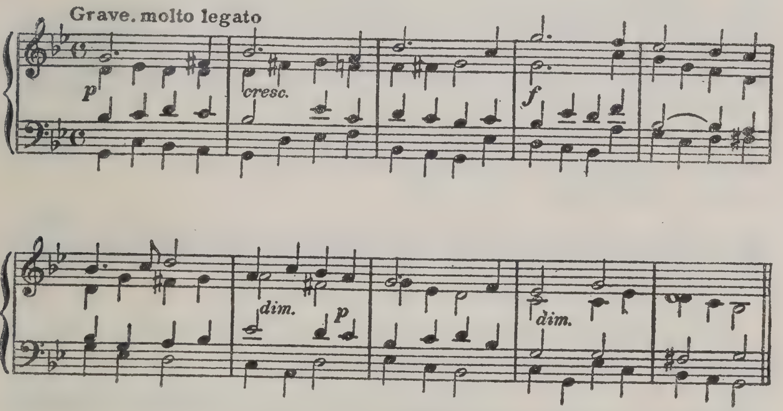


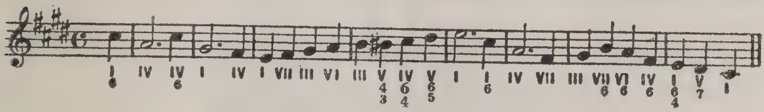
while the next motive could be in the wind instruments or in a piano part.

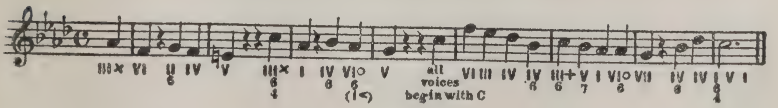


Measures 4 and 6 contain minor dominant formations. The skip from G, the natural seventh of the scale, to E, the fifth of the tonic (measures 5 to 7) is characteristic of Norwegian music.

Lesson: Be sure to analyze carefully all the examples furnished and add others.


Grave. molto legato
p
cresc.
f
dim.
p
dim.


I 6
IV
IV 6
I
IV
I
VII
III
VI
III
V 4 3
IV 6 4
V 6 5
I
I 6
IV
VII
III
VII 6
VI 6
IV 6
I 6 4
V 7
I

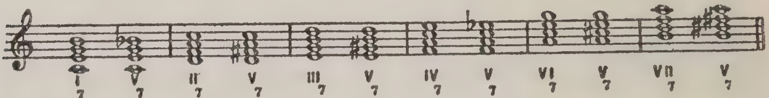

III×
VI
II 6
IV
V
III× 6 4
I
IV 6
VI○ 6 (I<)
V
all voices begin with C
VI
III
IV
IV 6
III+ 6
V 7
I
VI○ 6
VII
IV 6
IV
I 6 4
V
I

CHAPTER X

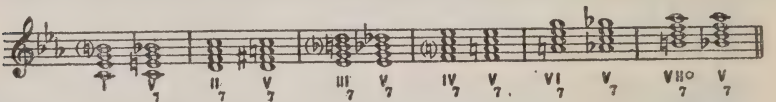
SECONDARY SEVENTH HARMONIES

With this chapter, we enter on that part of our study which I have learned to consider the most difficult of comprehension on the part of the student. These combinations are so much the accidental product of the extension of triads into seventh chords, that their harmonic value is outweighed by melodic considerations and becomes a matter of secondary importance. This fact gives them their great value as elements of contrapuntal thought; the added intervals—their sevenths—being in most cases melodic tones such as suspensions, passing-tones, appoggiaturas, etc.

That they are regarded by musicians, generally, as bona fide harmonies is due to the treatment accorded them in the compositions of the masters, which is modeled completely after the treatment of the V_7 (the only seventh chord of true harmonic value, because of its overtone derivation). Any seventh harmony is really a modification of a V_7 and all of them can readily be converted into actual V_7 chords by means of alterations, as the following table of seventh harmonies belonging to the key of C major will show:



In C minor, alterations will change the secondary seventh chords into V_7 in the following manner:

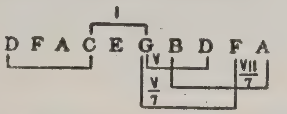


The $IV^{7}_{3<}$ and the subtonic seventh chords have the V_7 sound if they are constructed according to the melodic form of the scale, but their harmonic functions differ from those of a real V_7, as will be shown later on. All the V_7 chords resulting from alterations of secondary seventh harmonies have their place in the tonality: they furnish the means for transitory modulations. My object in showing the possible transformations here is to give the reason why these chords, in unaltered form, resolve (like the real V_7) into harmonies whose respective roots lie a 5th below their own root. This is of importance because it furnishes us with an absolute fact regarding their natural resolutions, from which other progressions can readily be deduced.

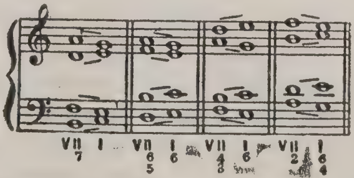
Chords with major sevenths have stronger melodic character than those with the minor seventh, as the latter finds its prototype in the 7th of the V. The chords on the leading-tone of the major and minor scale may almost be considered primary seventh harmonies, because they are extensions of the V with root omitted. It has always been customary to place these two in the same class with all secondary seventh harmonies and there is no need of changing this classification, but their harmonic importance justifies giving them precedence over all others.

THE LEADING-TONE SEVENTH CHORDS IN MAJOR

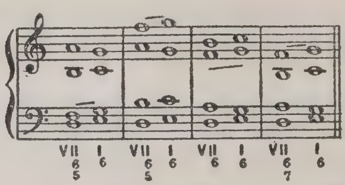
As stated above, the chord must be considered as V_9 without root and belongs, therefore, first of all, to the V formations of the key, a statement which the diagram corroborates.



All positions of the chord are met with. If regarded as an independent harmony, its natural resolution is into the III, to which it stands in V relation, but, because the III is part of I_7 and the VII_7 is really a V_9, we may safely say that the I is the natural chord of resolution. The leading of its intervals is as follows: root and 3d ascend; 5th and 7th descend; this brings with it a doubled 3d of the I triad, which is, of course, unobjectionable on account of prevailing contrary motion.



If VII^6_5 is followed by I_6, the 5th of VII may ascend, which is in keeping with the rule: "If V^4_3 is followed by I_6, the seventh of V may ascend". In other words the fifth of VII retains its character as seventh of V and the third of VII is really the fifth of V.

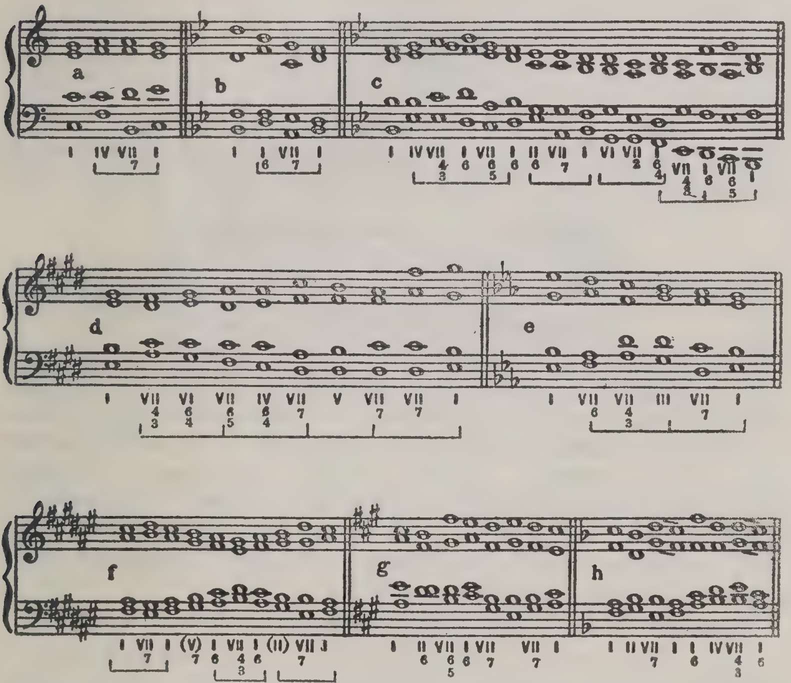


The last inversion of VII$_7$ is seldom led into I, as it demands the I$^6_4$ which then, not being cadential, would be rather weak; of course, this does not exclude the possibility of such a progression. (In further explanation of the foregoing, the student is reminded of the fact that the cadential I$^6_4$ is usually preceded by IV formations. The VII$_7$ may be treated as a IV formation, but at present I do not wish it to be considered as such.)

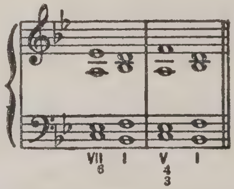
Other succeeding chords are V, V$_7$, IV, VI, III, but not II. (The whole triad on II is a part of VII$_7$ and such a progression would simply mean the elimination of the root, which would be a harmonic anti-climax.) If V or V$_7$ is the succeeding chord, there is likewise very little progression of intervals possible, and the effect is not very great, unless we consider VII$_7$ in the light of a IV formation. Progression into IV is very good, because if IV were I, VII$_7$ would be a V formation of its V key; a relationship which will be explained in the chapter on transition. Submediant, as succeeding chord, finds its justification in the fact that VII$_7$ stands in relation of II$_7$ to VI as a possible I. The III furnishes a rather colorless chord of resolution, because such progression is based on the assumption that VII$_7$ is a real V$_7$ to III, which, of course, it is not.

The preceding chords for VII$_7$ are subdominant formations such as IV, II and VI, but the I is naturally equally effective, and so are V, V$_7$, III, and VII—chords of the same character.

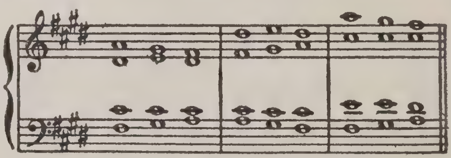
While writing the examples it is well to remember that if the VII$_7$ is followed by I, parallel fifths can only be avoided by either doubling the third of I or by placing the third of VII above the seventh—the third may then descend into the root of I or it may skip into the fifth of I. If there are common tones in VII$_7$ and the succeeding chord, they are usually retained in the same voice or voices. As a rule, it will sound best to place the seventh of VII in the soprano if the I is the succeeding chord, because the seventh is the ninth of V, and it is a well known fact that if the inversions of V_9 are used, the ninth must lie in the upper voice; and the different positions of VII_7 are nothing but inversions of V_9.


a
I IV VII I
7
b
I I VII I
6 7
c
I IV VII I VII I II VII I VI VII I VII I VII I
d
I VII VI VII IV VII V VII VII I
e
I VII VII III VII I
f
I VII I (V) I VII I (II) VII I
g
I II VII I VII VII I
h
I II VII I I IV VII I

The doubled third of I at **b** makes the chord sound rather "thick" but, if you listen to the leading of the intervals of the preceding VII_7, your ear will not only become reconciled to the I sound, but will learn to relish it. Remember that the individual sound of any harmony is always good if it is the outcome of correct, tasteful voice-leading. Analyze the somewhat extended example at **c** carefully—it contains a variety of preceding chords, and among the succeeding harmonies you will find even a passing I^6_4. In the last VII_7 chord, the seventh skips into the third of I and the E♭ in the tenor ascends. This exception is based on the ground that G is a melodic tone, taking the place of either E♭ or F—conditions which have been explained at the time the leading-tone triad and V_7 were under consideration



Ex. **d** contains a good illustration of the effective use of VI^6_4. The following rule governs this and similar cases: VI^6_4 is effective if placed between VII^6_5 and VII^4_3 or vice versa.

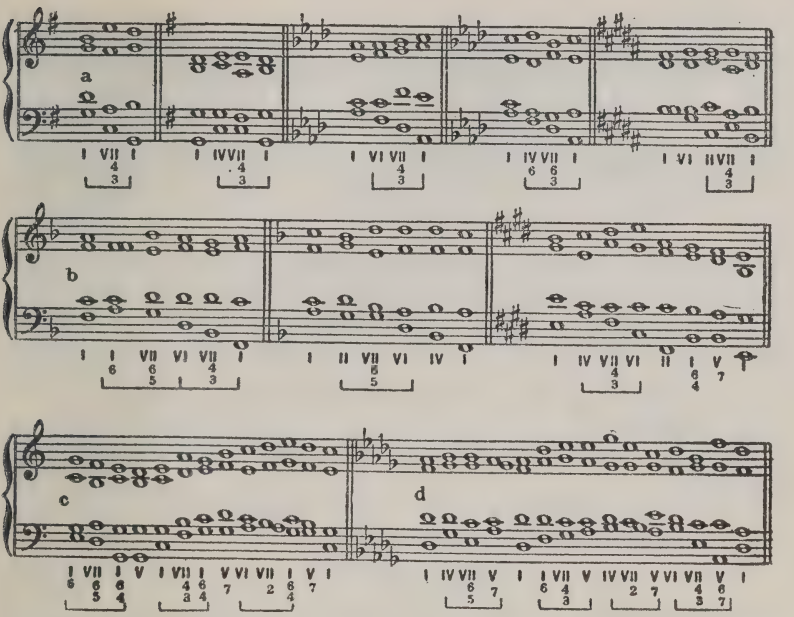


The design in example **f** is frequently met with in orchestral writing; it is an ideal passage for the woodwinds. There is no doubt that the fourth chord sounds like a V, and the eighth like a IV formation. Parallel fifths, like those in example **h**, are not altogether objectionable and modern composers do not hesitate to write them; the excuse that D takes the place of C, being a melodic substitution, is valid. **Students** should refrain from using such progressions.

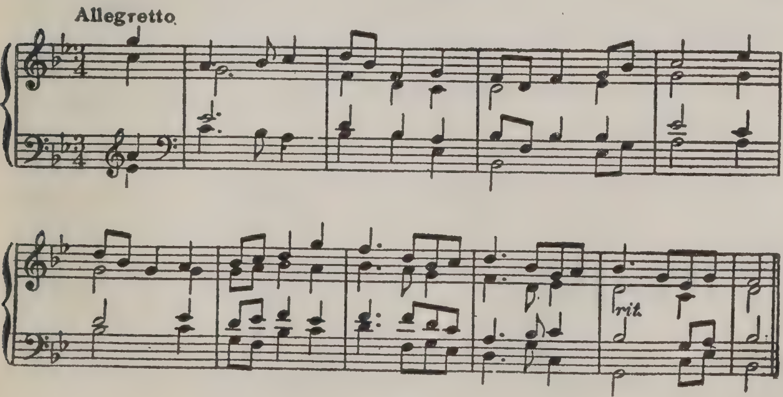
Lesson: Furnish additional examples.

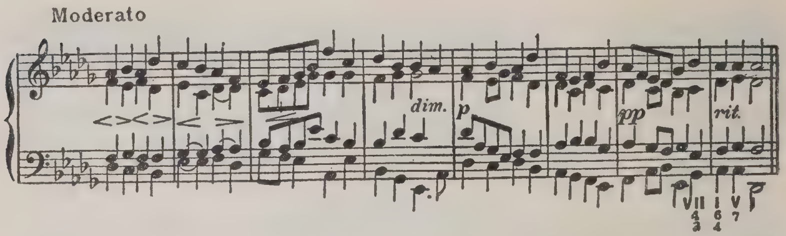
It is quite possible to hear VII_7 as a IV formation, because it contains all the intervals of the supertonic triad. Its IV character is most evident when VII^4_3 is led into I in root position; this produces the effect of a plagal cadence. VII^6_5 may lead directly into root position of VI—the effect being that of a plagal cadence in the relative minor key—because VII_7 in major is II_7 (a strong IV formation) in minor.

Any inversion of VII_7 may be used as a IV formation in the cadence, if succeeded by either I^6_4 or V in root position. Its IV character is, of course, not as convincing as that of other harmonies; nevertheless, many examples of such use are to be found in music-literature. The root position of VII_7 can never be heard as a IV formation because the leading-tone in the bass does not permit of promiscuous skipping.


a
I VII I 4 3
I IV VII I 4 3
I VI VII I 4 3
I IV VII I 6 6 3
I VI II VII I 4 3
b
I I VII VI VII I 6 6 5 4 3
I II VII VI IV I 6 5
I IV VII VI II I V 4 3 6 4 7
c
I VII I V I VII I V VI VII I V I 6 6 5 6 4 4 3 6 4 7 2 6 4 7
d
I IV VII V I I VII V IV VII V VI VII V I 6 5 7 6 4 3 2 7 4 3 6 7

All the examples at **a** contain plagal cadences; those at **b** show the plagal cadence effect into VI (the I of the relative minor key). At **c** the different inversions of VII_7 are used as IV formations, leading into I^6_4, and at **d** these same inversions are followed by V formations in root position.


Allegretto
rit.



The little Allegretto should be played lightly; its character is rather instrumental, which excuses the skips in the voices at the beginning. Strings could make the piece in D♭ major sound quite effective. Observe the leading of the alto in the final cadence; it is such leading that justifies the use of VII$_7$ as a IV formation.

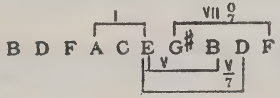
Lesson: Analyze both examples carefully and invent a few yourself.

THE CHORD OF THE DIMINISHED SEVENTH IN MINOR

There is an old whist rule: "When in doubt"—well you probably know it—which, when applied to music, reads: "When in doubt use a diminished 7th chord." No words could describe its character more forcefully. It is the most useful combination of tones in all music; its ambiguity furnishes the means of startling changes in tonality—the evasiveness of its sound keeps the listener in suspense, until, through resolution, a definite key is revealed. It deceives the eye that is not coördinated with mental or actual hearing; it defies intelligent analysis, owing to the widespread illogical practice, on the part of composers, of using phonetic spelling of its tones, the result of a misguided desire for simplicity. I am not exaggerating in saying that every composer has at some time, somewhere, written the chord incorrectly, thus creating a great deal of confusion in the minds of those who rely on the eyes—often to the complete exclusion of the ears—in the solving of harmonic relationship. One of the causes of this chaotic condition is the faith placed in that pernicious rule that sharps "go up" and flats "go down": rank nonsense, of course—as I shall prove as our work progresses. Furthermore, composers writing for orchestra are frequently guided in the spelling of tones by the melodic leading of the mono-voiced instruments, disregarding the fact that these single voices are really component parts of harmonic units.

These conditions confront us, and one of the objects of our study of this chord must be to clarify the situation, enabling the student to decide for himself how the chord must be written (which is determined exclusively by its relationship to the surrounding harmonies) in spite of the phonetic spelling. Among the classics, Bach, Beethoven, Schubert, Spohr and Liszt have well-nigh exhausted the enharmonic possibilities of the VII$^\circ_7$. In modern compositions it has given way largely to the equally alluring ambiguity of harmonies with augmented intervals.

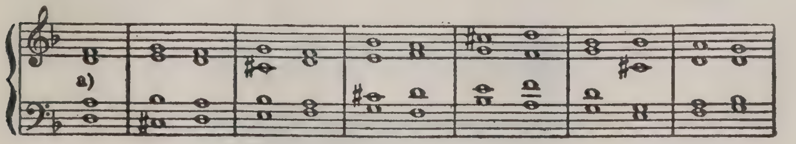
The first part of this lesson deals with the VII$^\circ_7$ chord as part of a definite minor tonality. It is formed on the leading-tone of the minor scale and its principal character is that of a **V formation**; it must be regarded as a V$_9$ without root.

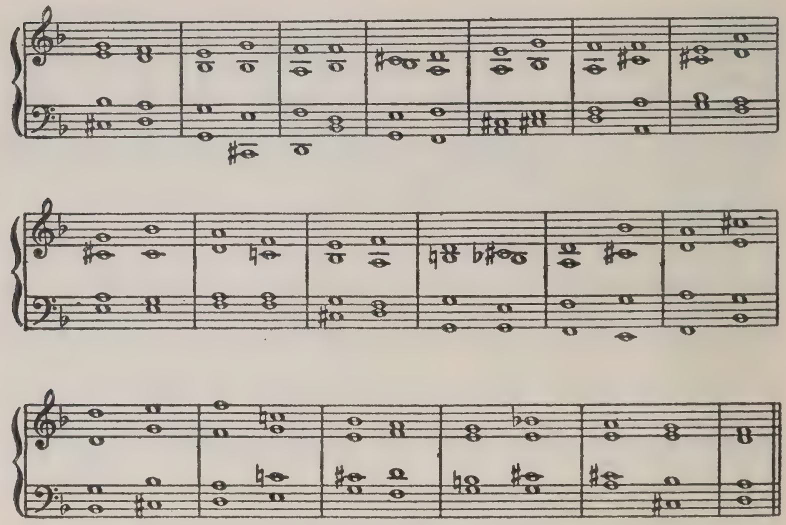


The leading of its intervals is the same as given in major for the VII$_7$, but it may be introduced much more freely, due to the fact that it is composed of a series of minor thirds (which makes possible the use of any one of its intervals as root). Even VII$^\circ_2$ leading into I$^6_4$ is never objectionable, on account of the halfstep progression in the bass; and steps of augmented seconds are occasionally permitted—because the ear might possibly perceive them as minor thirds.

The preceding chords may include every harmony of the minor tonality, I, IV, II (don't forget!—mostly II$_6$), VI, V, V$_7$, VII$^\circ_6$, III$_{5<}$; also IV$_{3<}$, II$_{5<}$, III and VII.

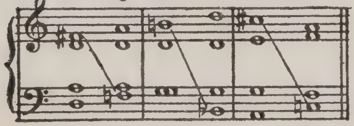
The succeeding chords are I, V, V$_7$, IV, VI, occasionally III$_{5<}$ and even III with natural fifth, as well as the triad on the subtonic, and IV$_{3<}$.



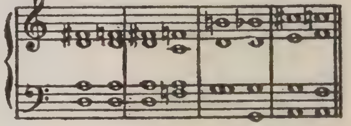


Example a contains every one of the preceding chords mentioned; analyze it. My reason for furnishing here such a lengthy example is to show how easily the VII°_{7} may follow any harmony of the key; it also contains the step of an augmented 2d in the bass. Look for it.

False relation, or cross-relation, resulting from a chromatic alteration of an interval in different voices, frequently produces disagreeable effects.

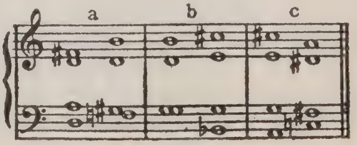


Not good

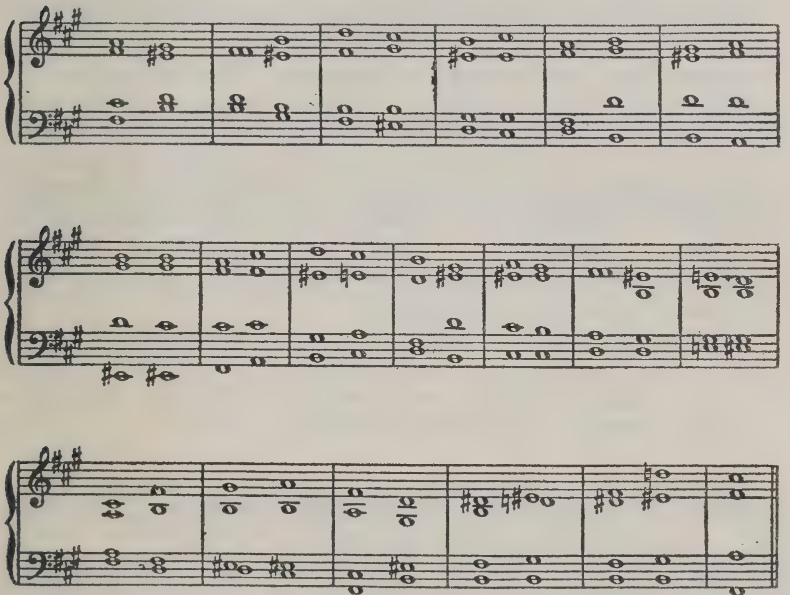


Correct

If, however, a VII°_{7} chord is the succeeding harmony, it does not matter in which voice the chromatically altered tone is placed:



At a the F♮ might be an E♯; the B♭ at b, A♯; and the C♮ at c, B♯. Besides, the rule: "If the succeeding harmony is of sufficient interest to arrest the listener's attention (the VII°_{7} here fulfills this requirement), laws of voice-progression may sometimes be disregarded", may be applied to the above examples. An investigation of the D minor example will disclose a few unobjectionable "false relations".

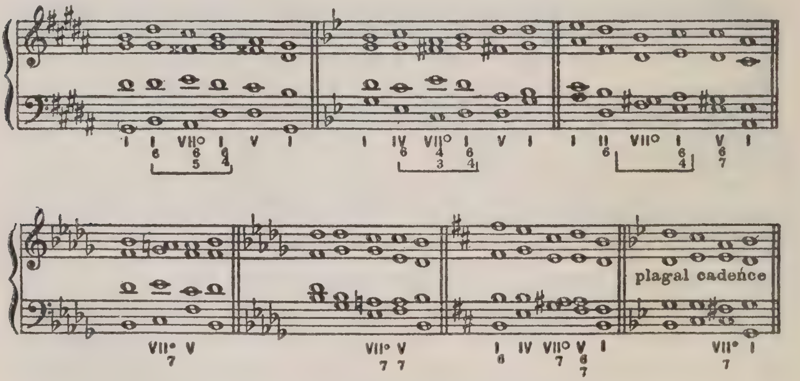


The foregoing example contains illustrations of every succeeding harmony mentioned. The VII°_{7} in measure 9 would ordinarily have to be written G♯-B-D-F♮, because the succeeding A major harmony has the right to use that VII°_{7} which is founded on the leading-tone of the A major key; but because it is followed immediately by harmonies emphasizing the key of F♯ minor, the A major triad may be considered as a passing harmony. The exercise ends rhythmically in measure 16—the succeeding harmonies furnish an added cadence. While the use of the major subdominant is somewhat far-fetched, it should here be excused as an illustration of a certain point.

Lesson: The student must furnish a number of short illustrations in different keys, using the preceding and succeeding chords as provided. Do not crowd them into one or two examples as I have done; use not more than five or six chords for one illustration. Variety of keys will develop versatility.

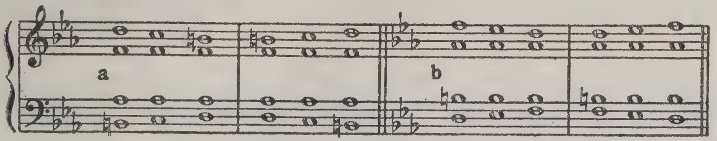
That the VII°_{7} as well as VII_{7} in major contains IV possibilities goes without saying. Everything said about such use in major applies to the VII°_{7} in the minor tonality—yes, its IV character is even more emphatic, on account of the inexorable leading of the seventh into the fifth of the scale. To make my meaning clear I will cite a concrete case. The A♭ in the VII°_{7} on B has hardly any choice of leading; it moves to G when the succeeding chords are the I or V formations; A♮ as the seventh of VII_{7} in C major is not so restricted: it might, for instance, lead to B if the succeeding chords are V formations. It has been mentioned previously that a possible half-step is preferable to any other progression on account of its insistence—all half-steps produce the impression of leading-tone movement, whether they move upward or downward.

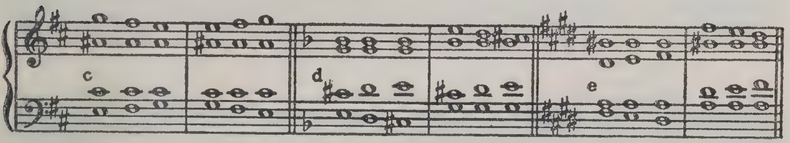
The progression of $VII^{\circ 4}_{3}$ to I produces the same plagal cadence effect as in major, but $VII^{\circ 6}_{5}$ to VI in root position is without value, because the relationship of these two harmonies is totally different from that in major.



These examples need no explanation.

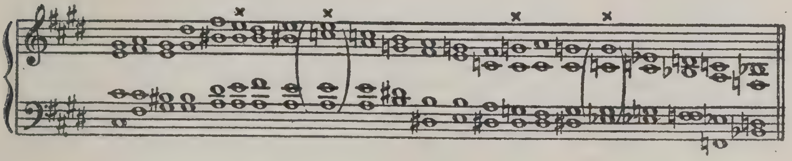
Of peculiar charm are the **passing** possibilities of the various intervals of the VII°_{7}. The root, for instance, may pass diatonically into the third, while in another voice the third moves into root, the other intervals remaining stationary, or the third may move into the fifth, under the same conditions, or the fifth into the seventh. All of these progressions may be reversed.





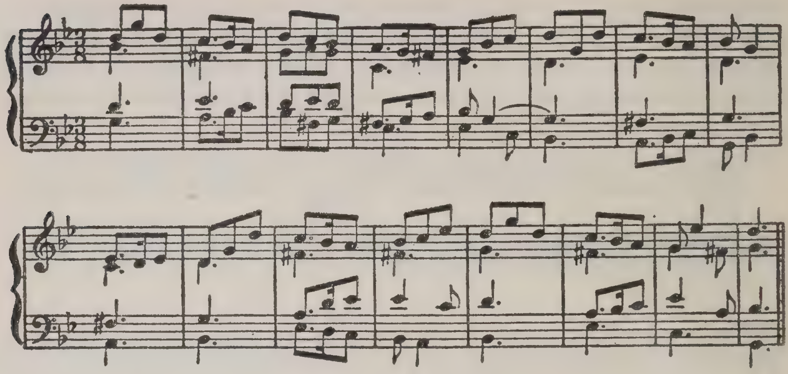
The second chords in examples **a** and **d** become IV triads on account of the passing-tones; those in **c** V—but in examples **b** and **e** they cannot be called "chords", altho they sound A♭ minor and A♮ minor respectively.

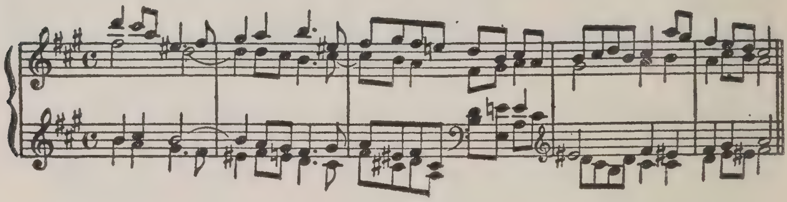
These accidental harmonies are frequently taken advantage of for the purpose of modulation, as the following example will show:



These chord progressions begin in the key of C♯ minor, those marked with **x** are accidental harmonies sounding A minor and C minor as indicated by the parentheses. By using the A minor chord as IV, chords are added which belong to E minor. The accidental C minor sounded in E minor, by using it as II, leads into the key of B♭ major.

Lesson: The student is not required to furnish similar examples. Write some more examples, based on the material succeeding your last work.

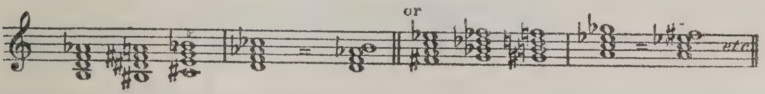




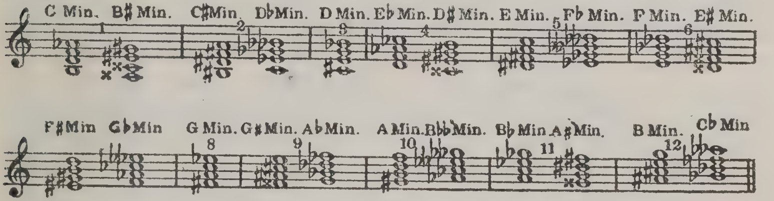
The only comment necessary concerns the passing minor V in the second measure of the F♯ minor example. It is out of place, on account of the held A in the soprano. The effect is contrapuntal; I could have written it differently, but I did not want to; it just suits me as it stands. In the third measure, the key of A major is rather heavily drawn upon; still, all the chords involved may be considered secondary triads and, besides, the VII°_{7} (in 4th measure), leading back to F♯ minor, constitutes a smooth link, on account of its enharmonic relationship to G♯-B-D-F♮, the VII°_{7} of the keys of A minor and A major.

Lesson: Do not neglect to analyze carefully; in playing observe the held tones. Invent a number of long examples.

The value of the enharmonic of the VII°_{7} for purposes of modulation has been pointed out in the opening paragraph of this lesson. In order to understand it more fully, we shall analyze the chord still further. Its formation, consisting of three minor thirds, shows that there can be only three diminished seventh chords of different sound in all music. If these are constructed on three successive chromatic or diatonic half steps, the one on the fourth step will be found to sound the same as the first, altho it may be written differently.



Yet these three VII°_7 sounds supply every one of the twelve minor keys with its individual VII°_7 chord.



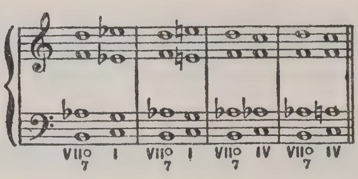
This table shows every possible VII°_7 chord; those bars containing two illustrate the simple enharmonic. Ambiguous enharmonic—where the chords sound the same but actually belong to different keys—will be found to exist among the chords

in bars 1, 4, 7 and 10
2, 5, 8 " 11
3, 6, 9 " 12

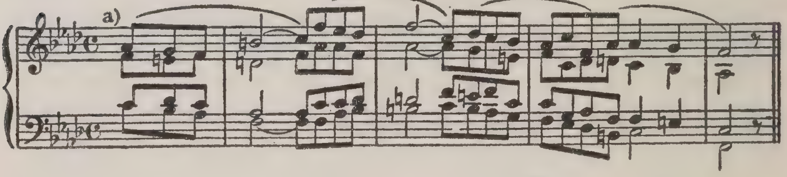
thus proving the fact that there are really only three diminished 7th chords of different sound.

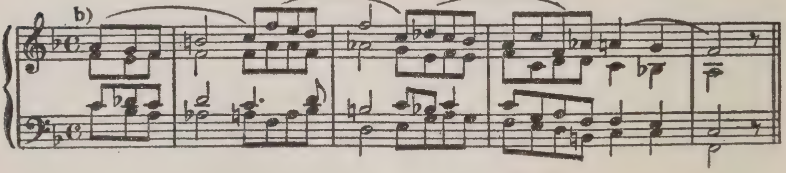
That their resolutions are not confined to the minor I triad has been previously shown. It is well to discriminate between resolution and progression: A "resolution" takes place when a given harmony is followed by a chord which is based on the fifth below the root of the chord in question, while "progression" may be made into any combination of tones, subject only to the melodic leading of the voices.

It is a well proven fact that VII°_7 chord not only resolves into that triad which might be said to be the minor I, but also into the major I, because, as part of a V_9 harmony, it is practically common to both the major and minor tonalities. Yet there is another progression which occurs with equal frequency and that is for the VII°_7 to move into those triads which stand in relation of subdominant to the minor and major tonics.



It may be helpful to point out the fact that the C minor or C major triad's being preceded by its VII$^{\circ}_{7}$, does not make it I; neither does the progression of the VII$^{\circ}_{7}$ into F minor or F major make either of these chords IV. These terms merely denote a possible relationship. No triad may be designated as I or II or VI, etc., unless a key has really been established—which can never be accomplished by the successive sound of only two harmonies. As a matter of fact, if the chord B-D-F-A♭ is led into F minor or F major these chords are most frequently heard as tonics, as the following examples will prove.

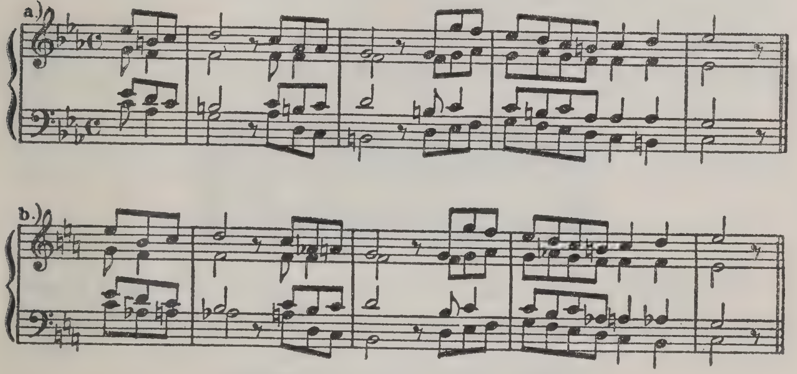




The little phrase in F minor shows the VII$^{\circ}_{7}$, B-D-F-A♭, three times leading into the F minor tonic. At **b** this same chord is led twice into the F major triad and once into the C major, which is the V of the key. This last named resolution provides the explanation for the progressions mentioned, i. e., the chord B-D-F-A♭ is heard as the VII$^{\circ}_{7}$, of the dominant key, but, with one exception, is always followed by the I in the above illustrations.

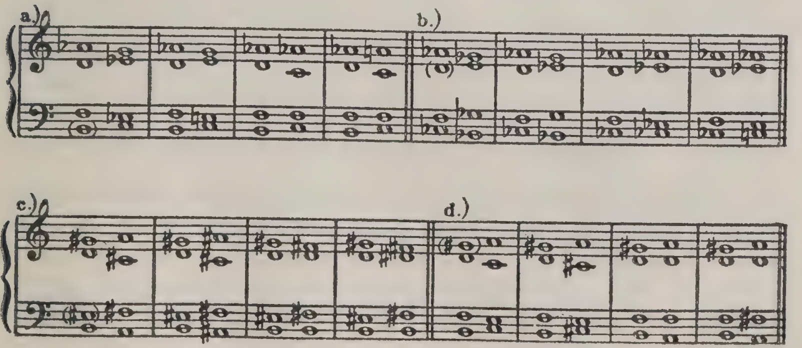
Composers frequently write the chord when followed by the F major chord, G♯-B-D-F, led by the stupid rule that sharps move up and flats move down. The student, in analyzing, will find innumerable instances of misspelled diminished 7th chords, but if he learns to understand the true relationship of these progressions he will readily solve incongruous notations.

The following examples show that the VII$^{\circ}_{7}$ of the I may well lead into the real IV of the key.



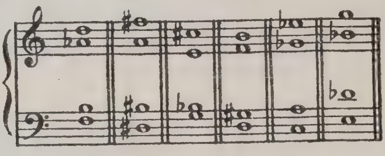
Analyze these examples and place the correct figuring under the chords.

The following work shows the enharmonic possibilities of every VII$^{\circ}_{7}$ chord—with their resolutions into minor and major tonics and minor and major subdominants. A given VII$^{\circ}_{7}$ sound may therefore move into 16 different triads.

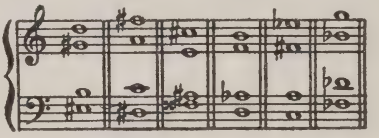


The roots of these chords are placed in parentheses. At **a** the root is B; at **b** it is D; at **c** it is E♯ (F might have been used, but the first resolution would then have been into G flat minor, demanding, as a key, the use of 2 double flats and 5 flats). At **d**, G♯ is the root (also preferable to A♭ which is a leading-tone in the rather far-fetched key of B♭♭ minor with its 5 double flats and 2 flats). The leading of the voices is of the strictest and the student should scrupulously adhere to it.

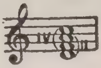
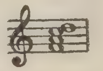
Lesson: Write out the 16 resolutions of the following VII°_{7} chords, using the above example as a pattern.

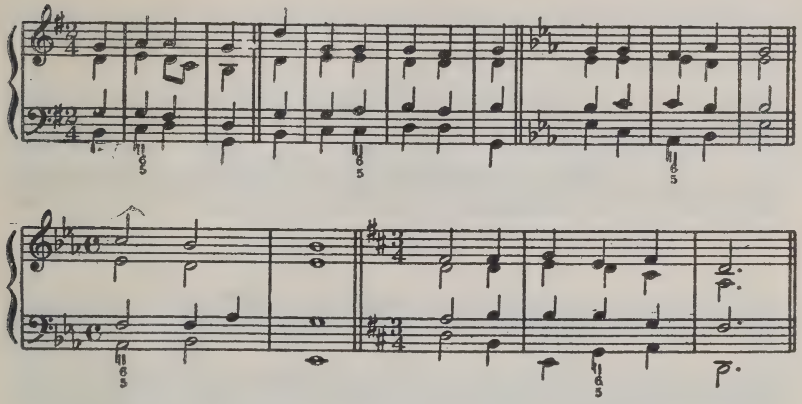


Also **play** the following VII°_{7} chords with all of their resolutions, observing carefully the correct leading of the intervals.



THE SEVENTH CHORD ON THE SUPERTONIC IN MAJOR KEYS

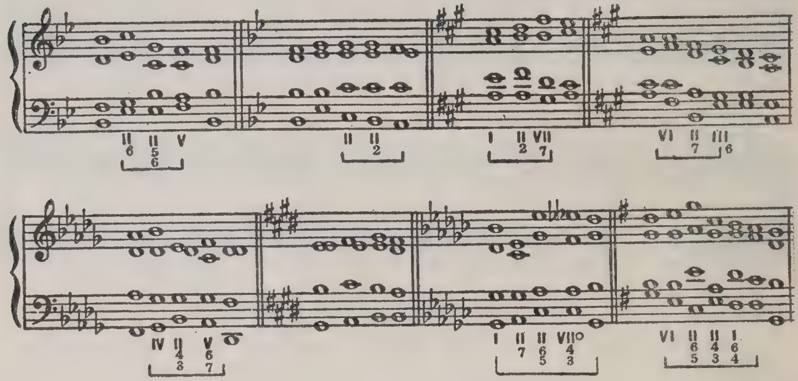
This harmony also is of great importance, and, while it is classified as "secondary", it is used so frequently that it really takes rank with the primary seventh chords. An analysis of its component parts shows that it is a combination of the triads on II and IV,  which makes it an effective and convincing subdominant formation. This characteristic has been recognized since the time when **Harmony** became an independent factor in the world of music. The famous composer and theorist Rameau named it "a subdominant with an added sixth"  which expresses its character most aptly. It is, of course, our modern II^{6}_{5}, that inversion which, even to-day, is most frequently met with in the cadences.



(Almost any hymn will furnish similar examples; look for them!)

That the chord is not restricted to its first inversion goes without saying; as a matter of fact all its positions are of equal value, with the possible exception of II$^4_3$, which has to be treated almost as carefully as a $^6_4$ position. The first movement of Beethoven's Sonata for Piano Op. 31, No. 3 furnishes many examples of II$_7$ harmonies—in fact one might say that its whole structure rests on this chord, as the principal motive of the first theme is built on it. (Don't neglect to investigate this!)

In determining the most effective preceding chords, we are guided by the fact that the VI of the key stands in relation of V to the II. Inasmuch as the VI possesses the modified characteristics of the I and IV (see lesson on VI) the following chords are the strongest preceding harmonies: II (this is mentioned first because the 7th is merely an addition to the II triad), VI, I, IV. The most natural succeeding harmonies are V formations, because the root of II stands in relationship of V to V. Therefore: the succeeding chords for II$_7$ are V, V$_7$, III (when used in place of V: see lesson on III), V$^6_7$, VII$_7$, VII$^\circ_7$ (this chord, altho originating in minor, may at any time be used in the major tonality), and I$^6_4$ (which, in the cadence, is just a suspended V). The interval of the 7th may be introduced freely, but its melodic tendency is, like that of all 7ths, downward. It usually leads into the 3d of any V formation or, when I$^6_4$ is the succeeding chord, it remains stationary, becoming the root of the I. The following short examples show the II_7 with its most natural preceding and succeeding harmonies.



The preceding and succeeding harmonies are not confined to those mentioned above; as a matter of fact all the harmonies with which the student has so far become familiar may precede as well as succeed the II_7. He should remember that the best preceding chords are correspondingly weaker as succeeding harmonies and vice versa.

The following diagram will show this plainly:

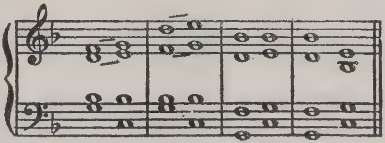
Strong succeeding chords:	II_7	Strong preceding chords:
$\text{V}\ \text{V}_7\ \text{V}^6_7\ \text{VII}_7\ \text{VII}^\circ_7\ \text{III}\ \text{I}^6_4$		II VI I IV
Weak succeeding chords:		Weak preceding chords:
I VI IV II		$\text{V}\ \text{V}_7\ \text{III}\ \text{V}^6_7\ \text{VII}_7\ \text{VII}^\circ_7\ \text{I}^6_4$

(The terms strong and weak must not be taken too literally. That which is logical is convincing and always proves strength; that which is illogical is unconvincing and therefore denotes weakness. In other words: harmonies mentioned as "strong" may be "weak" if illogically employed and the reverse is, of course, equally possible.)

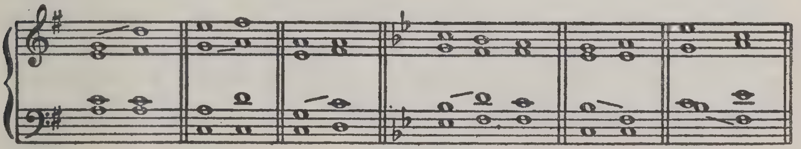
The reason why, in the diagram, the preceding chords are placed at the right and the succeeding chords at the left of the harmony in question, is that the relation of dominant to tonic is the leading principle: the V lies a fifth **above** a tonic.

While, as a rule, the 7th of II descends or remains stationary, there are a number of exceptions. For instance: the 7th of II may ascend into the 5th of V_7 if the 5th of II ascends into the

3d of V_7. This is often the case when II_7 and V_7 are used in the root positions.

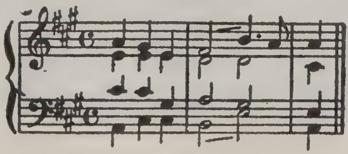


Other exceptional leadings:



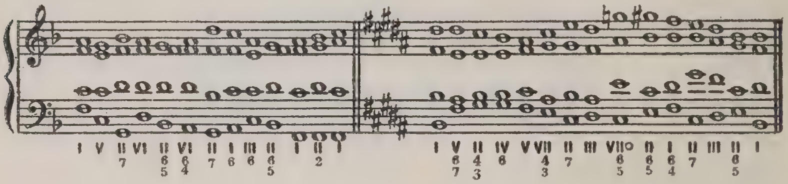
These simply prove that the 7th is an added 3d to the supertonic triad and of little harmonic importance. In each of the above examples the root of II may be substituted for the 7th; the result will be about as satisfactory, except for a slight loss of "richness". The student will probably come across many more exceptional leadings of the 7th of the II, but he must bear in mind that the "melodic line" invariably takes precedence over the sound of the chord. But, first of all, follow the rule! If in your own examples exceptional leadings occur, you must be conscious of them and provide satisfactory reasons.

The satisfying sound of the progressions II_7 to V_7 accounts for the parallel 5ths illustrated in the following example which are found, unfortunately, only too frequently in the works of composers of unripe musicianship. They are not particularly offensive, because the 7th of V furnishes the mellowing ingredient:

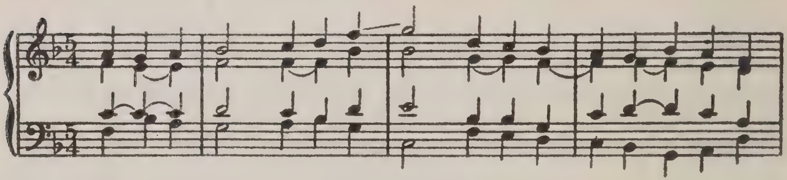


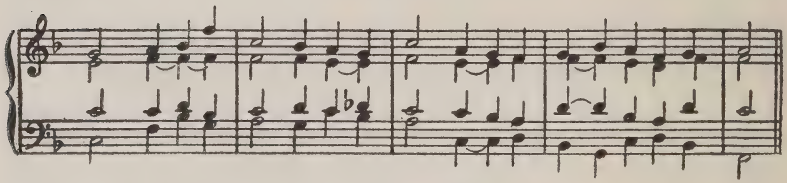
Nevertheless, to my mind, they prove a certain amateurishness on the part of the writer and compositions by our great composers, with thorough technical equipment, are practically free from such faulty leadings.

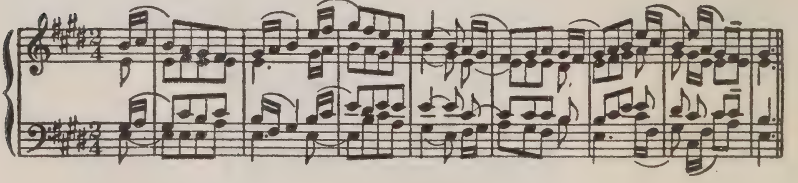
The following short examples show some of the less used combinations of II_7:

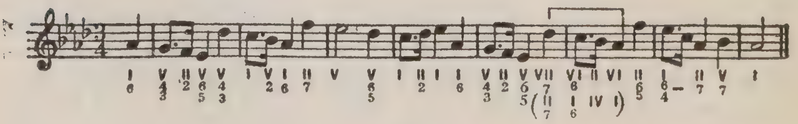

I V II VI II VI II I III II I II I
7 6 6 7 6 6 6 2
5 4 5
I V II IV V VII II III VII○ II I II III II I
6 4 6 4 7 6 6 6 7 6
7 3 3 5 5 4 5

In playing these the student must observe the sound of the combinations attentively. They contain all the weaker preceding and succeeding chords and, while the result is somewhat strange, it is by no means unpleasant.



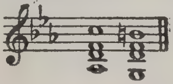


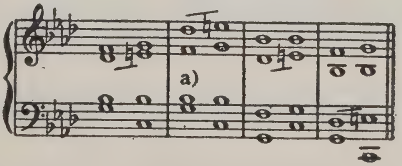



I V II V V I V I II V V I II I I V II V VII VI II VI II I II V I
6 4 2 6 4 2 6 7 6 2 6 4 2 6 7 6 6 6 — 7 7
3 5 3 5 3 5 5 4
(II I IV I)
7 6

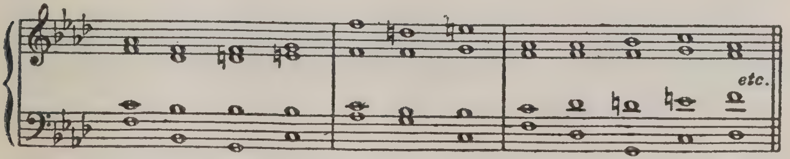
Lesson: Analyze the F major and E major examples carefully; observe how well the II$_7$ lends itself for plagal cadence effect. Write at least 10 short examples illustrating various uses of II$_7$. Add the indicated harmonies to the "Schumannesque" melody in A♭ major; begin with close harmony; treat the II$_2$ in measure 4 like the one in measure 2 of the above E major example. The II$_7$ after the I$^6_4$ in measure 7 is purely a melodic interruption of the cadence I$^6_4$-V$_7$. The motive beginning on the 3d beat of measure 5 is, of course, in the key of F minor indicated by the figures in parentheses. Invent similar examples.

SUPERTONIC SEVENTH IN MINOR KEYS

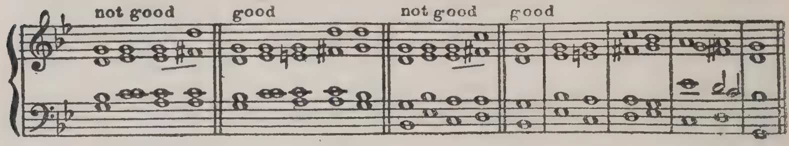
There is little to be added to the notes given for the treatment of the chord in major. II$^4_3$ is just as effective as any other position on account of the possible half step progression in the bass  The 5th of the II$_7$ may **not** ascend into the 3d of V$_7$, on account of the resulting aug. 2d, and consequently the exceptional upward leading of the 7th has to be modified; and the following progressions are to be avoided.



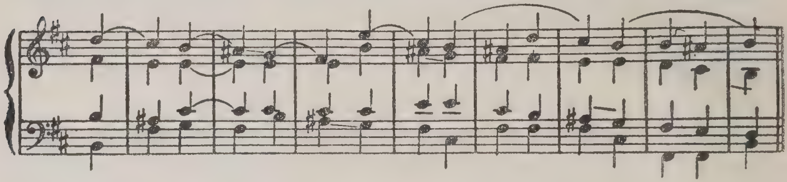
They become possible, however, if the 5th of the II$_7$ is raised; in other words, if the chord is formed according to the ascending melodic minor scale.



The progression at **a** is not altogether objectionable because the aug. 2d, being in the soprano, has a certain melodic strength. But the following progressions are not to be tolerated, except when the 5th of the II$_7$ is raised. Listen carefully to the leading of the alto voice in the succeeding examples.



If the aug. 2d is used in descending there is no objection;



the division into motives, indicated by the slurs, excuses these As a matter of fact, the V_7, being the end of the motive, does not really lead into the II_7; the motive simply begins with the II_7.

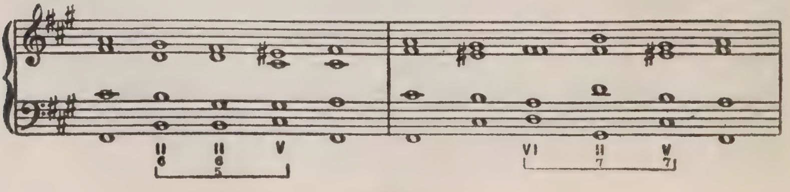
The following diagram again shows the preceding and succeeding harmonies in their relative effectiveness.

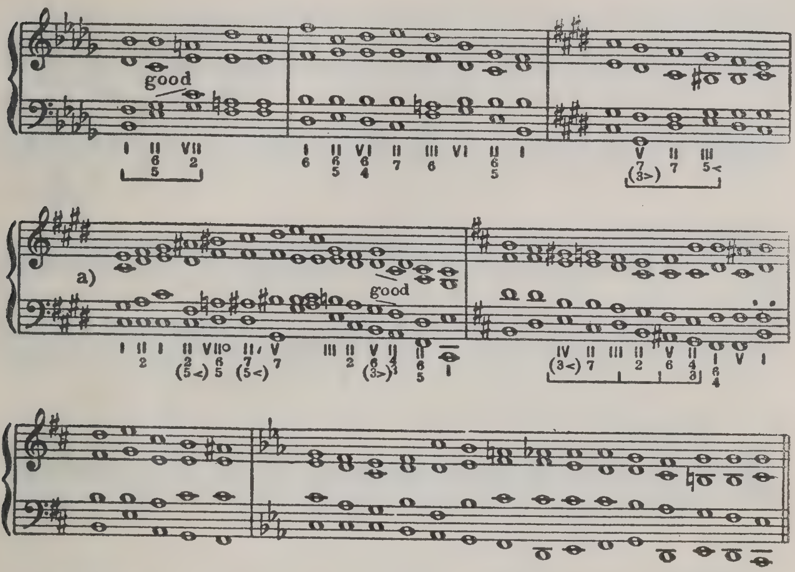
Strong succeeding chords: II_7 Strong preceding chords:
$V\ V_7\ V^6_7\ VII^\circ_7\ III\ I^6_4$ — $II\ VI\ I\ IV$

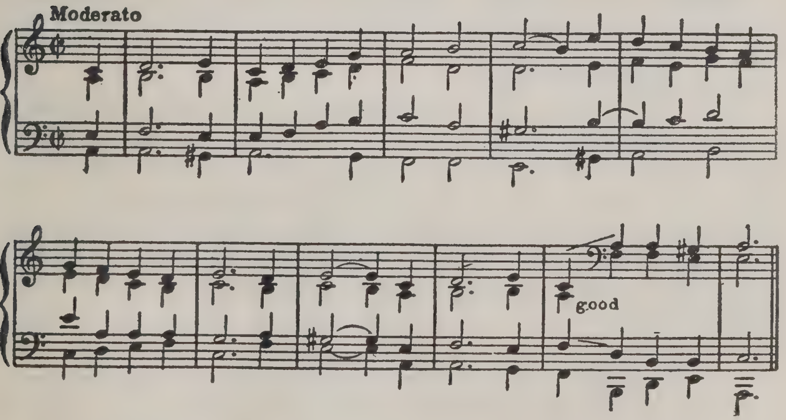
Weaker succeeding chords: — Weaker preceding chords:
$I\ VI\ IV\ II$ — $V\ V_7\ III\ V^6_7\ VII\ VII^\circ_7\ I^6_4$

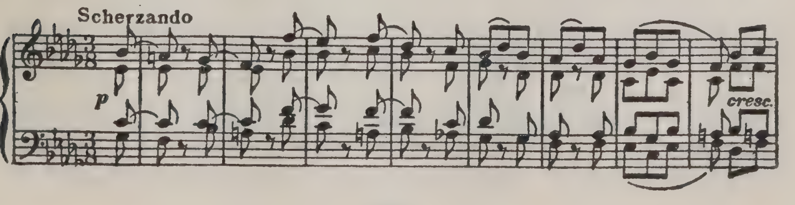
Among the preceding harmonies, the II and IV may be constructed with the raised 6th of the minor scale as one of their intervals. So may the natural 7th of the scale be used in the construction of V, V_7, III and VII.

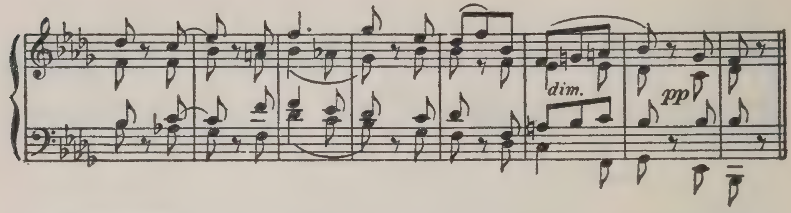
The III as succeeding-chord may for instance be used as a major triad; in fact this progression is rather effective, because the II_7 in minor stands in relation of VII_7 to the III as a possible I of the relative major key.

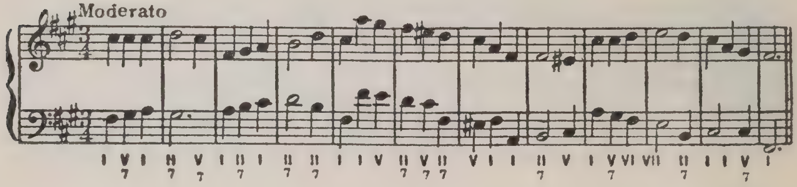


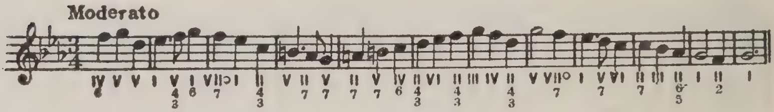

good
I II VII
6 2
5
I II VI II III VI II I
6 6 6 7 6 6
5 4 5
V II III
7 7 5<
(3>)
a)
good
I II I II VII° II V
2 2 6 7 7
(5<) 5 (5<)
III II V II II I
2 6 6
(3>) 5
IV II III II V II I V I
(3<) 7 2 6 4 6
3 4


Moderato
good


Scherzando
p
cresc.




Moderato
I V7 I II7 V7 I II7 I II7 II7 I I V II7 V7 II7 V I I II7 V I V7 VI VII II7 I I V7 I


Moderato
IV6 V V I V4/3 I6 VII°7 I II4/3 V II7 V7 II7 V7 IV6 II4/3 VI II4/3 III IV II4/3 V VII°7 I V7 VI II7 III II6/5 I II2 I

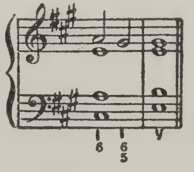
Lesson: The student should not encounter any difficulties in introducing II_7 because it is one of the most effective and most frequently met harmonies. It is best to illustrate the more natural uses.

Play and analyze all the examples given. Write at least 15 short illustrations, set the melodies, and invent a number of your own. It will be found that parallel 5ths are unavoidable in going from the V, in measure 5 of the F♯ minor example, to the II_7 on the first beat of the 6th measure. They are unobjectionable, inasmuch as the V in its minor form is purely a melodic formation. The condition is similar to the one in the example marked **a.**

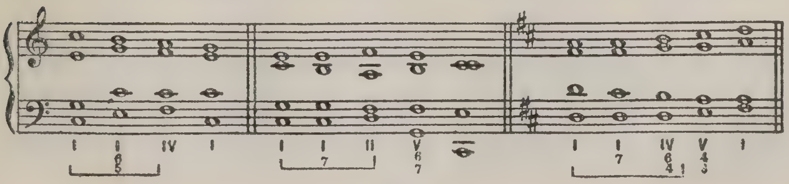
THE SEVENTH CHORD ON THE TONIC IN MAJOR KEYS

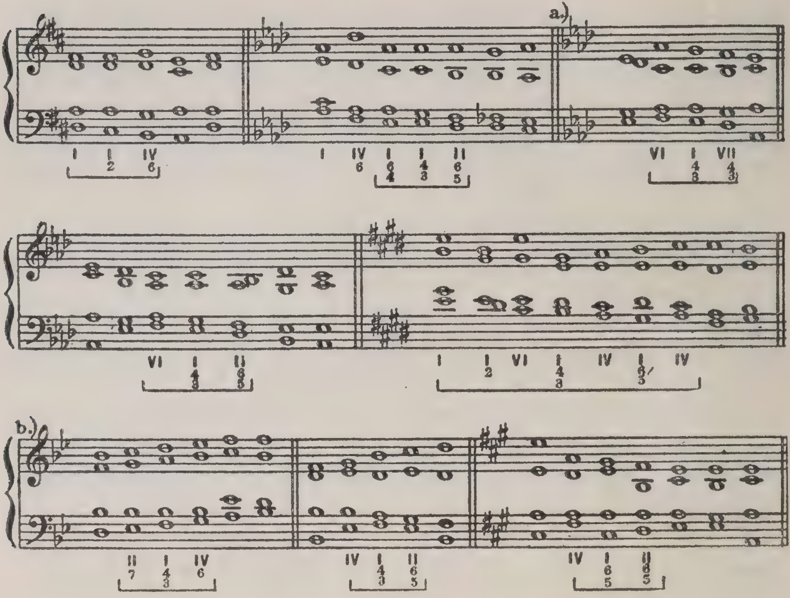
This chord is strongly discordant, on account of the presence of the major 7th, but it frequently gives just the right "tang" to the sound. To speak of this combination as a harmony is futile; the 7th is a melodic element, used mostly as a passing-tone, i. e., a link between two harmonic tones. Then again, it may be the result of a suspension, and it may also be introduced as an appoggiatura, i. e., a free-entering dissonant tone. For instance: B is the 7th of the I in C major: if it is preceded by C and succeeded by A, it is treated as a passing-tone; if it is preceded by chords containing B, such as all V formations, it is usually held over, which constitutes a suspension; and when a skip is made into B it is called an appoggiatura. As a rule **the 7th descends**; the fact that it is the leading-tone in the scale is entirely ignored: it is here only an appended tone to the I triad. Exceptions to this rule will be shown later.

If the 7th is treated as a downward-leading passing-tone, it stands to reason that the preceding chords must contain the root of the scale: these are: I, VI, IV, II_7 (the last two are better succeeding chords—see further on); if it is held over from the preceding harmony the chords must be V, V_7, V^6_7, VII_7, VII°_7, III—the last only if used as a substitute chord for the V—then if the III is used in root position, it is an abbreviated I_7 and therefore of little effectiveness. (See rules on III.) The succeeding chords are, first of all, those of IV character, because the I stands in relation of V to the IV; they comprise IV, II, II_7, VI, VII_7, VII°_7. The V formations, as succeeding chords, may be dispensed with, because the 7th of the I could only act as an anticipated 3d of V or V_7; for example:

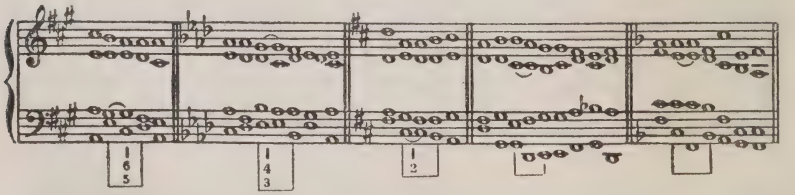


The 7th of any chord is essentially a tone of unrest, and as such it must move. This does not take place in the last example given. There are possible progressions into V formations which will be noted, later on, among the exceptional leadings of the 7th. The following short examples are constructed according to the preceding and succeeding chords given above:




a.)
b.)
I I IV 2 6
I IV I I II 6 6 4 4 3 6 5
VI I VII 4 3 4 3
VI I II 4 3 6 5
I I VI I IV I IV 2 4 3 6 3
II I IV 7 4 3 6
IV I II 4 3 6 5
IV I II 6 5 6 5

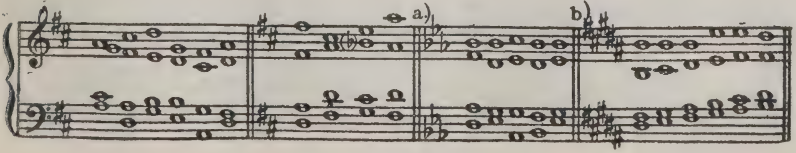
These show the 7th of I as a passing-tone. The 5ths in example **a** are not objectionable, on account of the melodic character of the I_7 chord. The ascending 7th of I in the example marked **b** is permissible according to the rule governing the ascending 7th of the V. (See lesson on V_7.) In fact the example could be made to sound E♭ major by using A♭; in that case the analysis would be: V_6, VI^6_5, V^4_3, I_6, II^6_5, V.

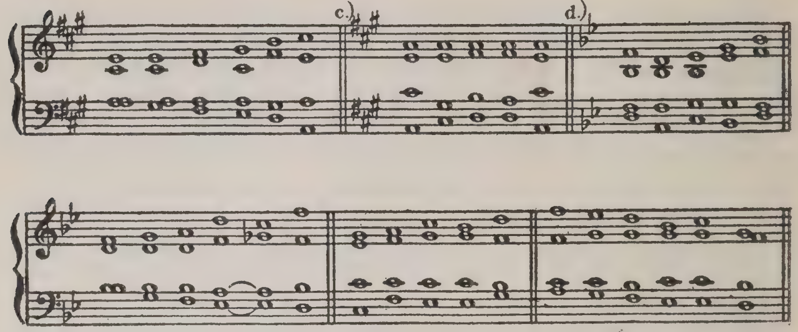


In these the 7th of I is introduced by means of a tie to the 3d of a V formation. Do not fail to place the figures under the harmonies where they have been omitted. Listen attentively to all progressions.

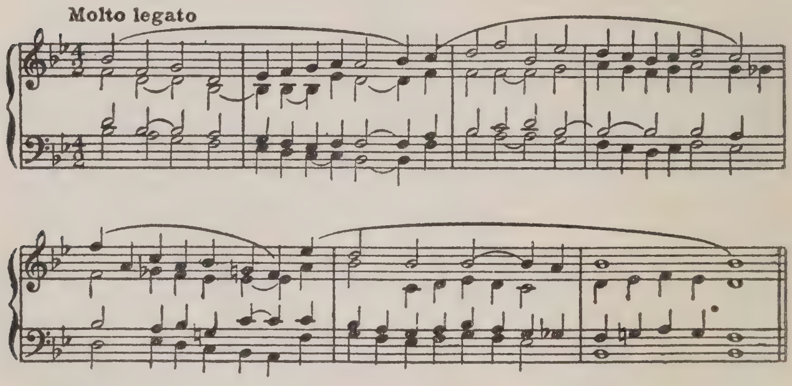
Exceptions: While the 7th of I, on account of its dissonant quality, demands certain definite leadings, it nevertheless may be treated entirely from the melodic standpoint, because it is, after all, very frequently nothing but a melodic element added to the I triad. (It will be shown later on that most of the modern harmonies are but the result of substitutions for the various intervals of a recognized chord, or of additions.) This very reason permits of greater freedom of treatment than if the 7th were purely harmonic. The 7th of I may well ascend a half-step, or it may skip a 3d upward; and even wider skips become possible. These exceptional leadings are most effective in the soprano but may occur in the middle voices when they carry a pronounced melodic thought (in fact they become the bearer of the principal melodic idea by virtue of such leadings). They are least effective in the bass, on account of the dominating quality of that voice, but even there they are not impossible. Neither is it necessary to "prepare" the 7th in the manner spoken of above; skips into it, either from below or above, may prove quite effective. It should be remembered that a skip downward is equalized by an upward progression after the skip and reversely. (The student will readily comprehend the reason for the greater freedom of treatment of this seventh if he considers as follows: It is usually best to double the root of a fundamental triad; supposing the chord were C-E-G-C—B is used as a substitute for one of the C's; it stands to reason that the same freedom of movement must be conceded the B as the C.) If the 7th of I ascends a half step, the possible succeeding harmonies are naturally II_7, (IV_7,) IV (but only if the 7th of I lies below the 3d of the I, as otherwise more or less objectionable 5ths will result), I, VI; these last two are of little consequence as they are less interesting I formations than the I_7.

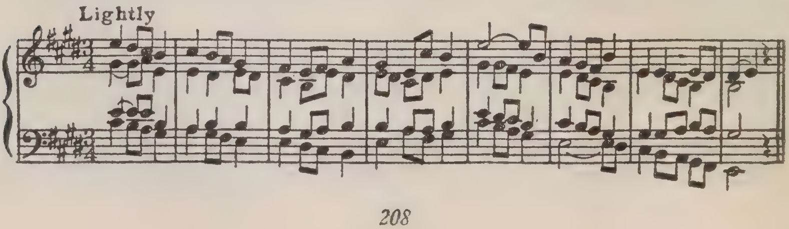
If the 7th skips a 3d upward the succeeding harmonies are II, II_7, VII_7, VII°_7, even V, V_7 or V^6_7. The best preceding chords are I or V formations, but all the other harmonies mentioned above are available.



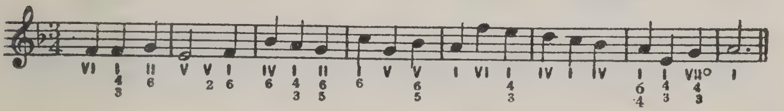


After playing these the student will be fully convinced that the effect of the I_7 is without harmonic significance. At **a** the IV_7 is used as a succeeding chord; this will be more fully treated in the next lesson. The example at **b** is similar to the one marked **b** in the previous set. The one at **c** shows the strong melodic line in the tenor; this same melodic thought is employed in the bass in the example marked D.





Lesson: While playing the example in B♭ major notice its polyphonic character, evidencing the melodic value of the I_7. The second example, in E major, of graceful texture, contains several interesting imitations—the natural result of the adaptability of the 1st motive. The 2d measure brings the bass motive of the 1st measure in the soprano; in the 3d measure the bass repeats the 1st measure of the soprano; the tenor, in measures 5 and 6, is an exact repetition of the first two soprano motives; and the alto, in measures 6 and 7, also imitates the first motive of the soprano. Analyze the above by supplying the "figuring". Write a number of short examples—emphasizing the downward leading of the 7th of the I; do not waste too much time trying to illustrate the exceptional leadings.

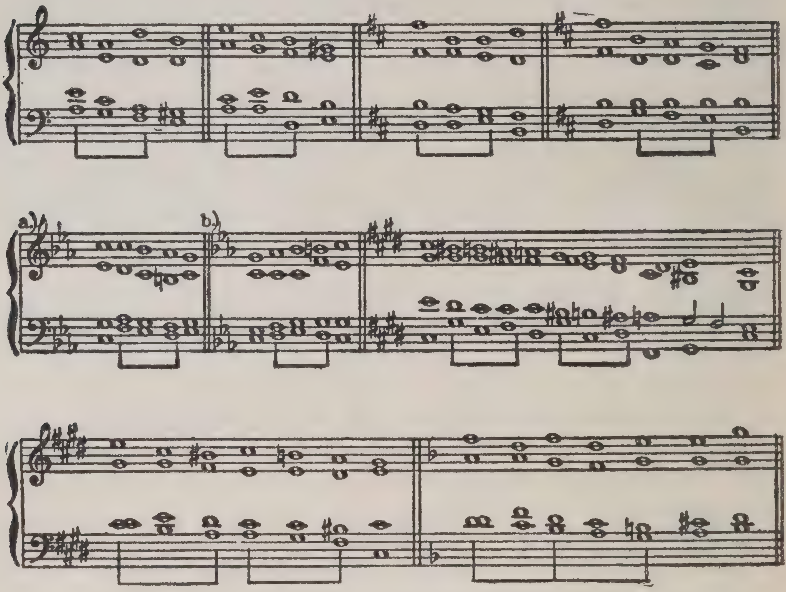


This little melody suggests the dignity displayed in many of the compositions of the pre-classical period. Remember that the VI triad frequently demands the doubling of its 3d. Invent some examples of your own.

THE TONIC SEVENTH CHORD IN MINOR KEYS

It may occur in two forms: with either the natural 7th or the raised 7th. The I with natural 7th has a certain harmonic value, because the 7th is of minor size. Besides, the interval is part of the descending melodic minor scale, which, in itself, supplies the motive for its downward progression. It is, however, very limited in its possibilities! The chord in A minor is A-C-E-G—its natural resolution is into the IV, and even that is hardly effective, because the C leads but awkwardly into the root of IV. If the chord were changed into a V_7, by raising the C to C♯, this awkwardness would be obviated, but then it would no longer be a I_7 but a V_7 of D minor. As this is not to be considered at present we can but rarely make use of this resolution.

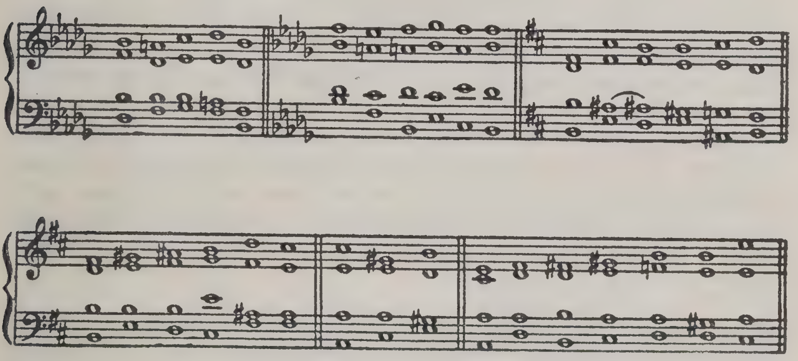
The G is best preceded by A, sometimes by F, but rarely by G♯. This makes it possible to have I_7 preceded by I, VI, II_7, IV; possibly by V, V_7, VII°_7. The best succeeding chords are those containing F—therefore: IV, (IV_7,) II, II_7, VI, VII°_7; possible, also, are $IV_{3<}$, $II_{5<}$. If G is led into G♯, even V or V_7 may be succeeding chords, but these progressions are seldom necessary or effective.



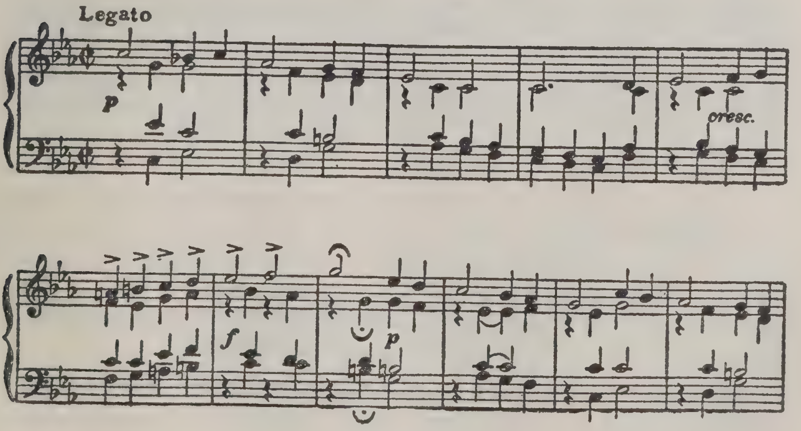
Some of these sound more or less strained—yet they may provide just the right color for a certain mood a composer wishes to express. In examples **a** and **b** the melodic character of the 7th is, perhaps, most apparent, which nullifies any criticism of the abounding parallel 7ths and 5ths.

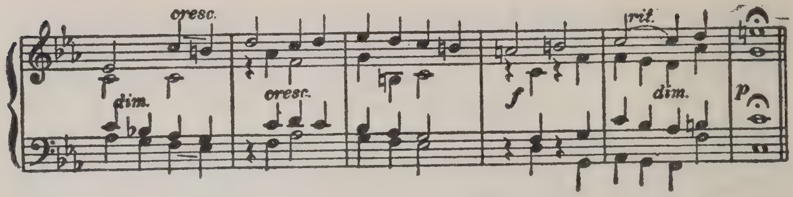
If the I is used with raised 7th, it is more than ever a melodic combination of tones and need not be considered very seriously from a harmonic viewpoint. The chord in A minor is A-C-E-G♯. If the student will read over what was said about the I_7 in major, concerning the ascending and skipping 7th, he will readily understand the possibilities of this chord in minor.

The 7th, G♯, is best preceded by A, or it may be held over from one of the V formations and it is not impossible to have it preceded by F♯; it may also be approached by a skip. The chord may, therefore, be preceded by I, VI, IV, II_7, V, V_7, $IV_{3<}$, $II_{5<}$. The 7th ascends a half step or it may skip a 3d upwards. If it ascends a half step, the succeeding chords are II_7, (IV_7) and I. If it skips a 3d upward, the succeeding chords are II_7, VII°_7. V, and V_7. But this raised 7th may also lead downward, into the raised 6th of the scale; in that case $IV_{3<}$, $II_{5<}$ and $II^7_{5<}$ may become succeeding chords.

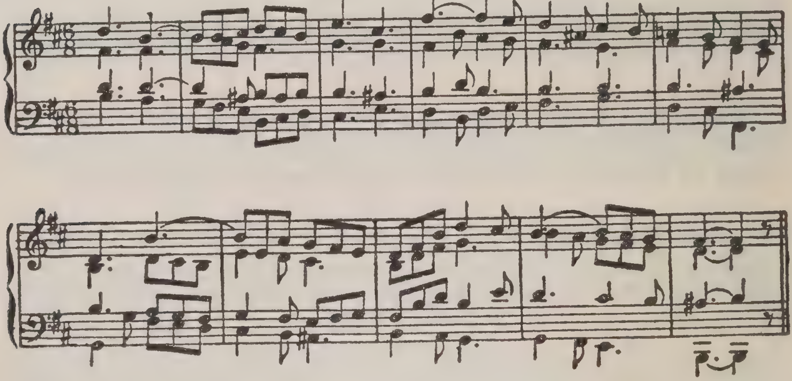


These few illustrations will sufficiently prove what was stated above. Listen principally to the leading of the voices; then the sound of these so-called chords will become comprehensible.





This example experiments, rather interestingly, with the various forms of the I_7. In measure 6, a passing VI_7 on the raised 6th of the scale is introduced; otherwise it does not contain anything but material explained in previous lessons. In measure 12, the lower three voices finish the phrase on the 4th beat, while the soprano begins the new phrase on the 3d beat of the same measure. In order to "bring out" this double phrasing the lower voices will have to diminish in tone volume, while the tone in the upper voice increases. This condition provides, at the same time, a sufficient excuse for the indicated 5ths.



In the B minor example, the contrapuntal element is again the dominant factor, although every combination may be analyzed from the chord standpoint. The 5ths in measure 8 are not of consequence, because there are only two harmonies to be considered, i. e., the II_7 on the 1st and the VII°_7 on the 4th beat; everything else in the measure is purely melodic.

Lesson: Analyze everything provided in the illustrations. Invent a number of short and long examples. I am purposely omitting melodies to be harmonized by the student; even the most careful figuring would hardly fully convey their possibilities. Original work of your own will be of much greater benefit, because it leaves your imagination unfettered.

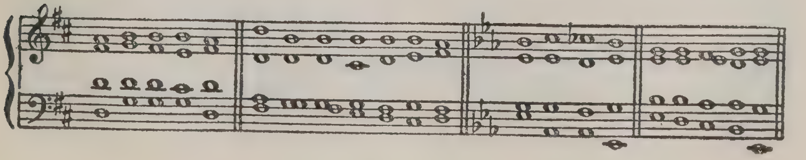
THE SEVENTH CHORD ON THE SUBDOMINANT IN MAJOR KEYS

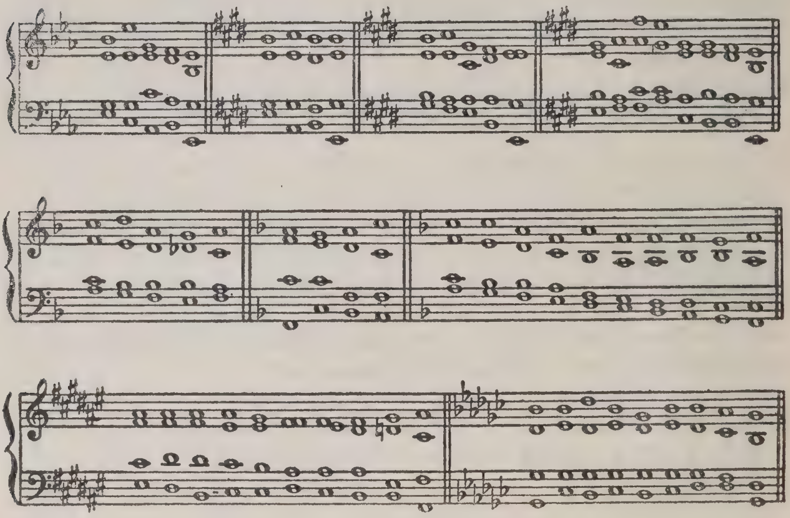
There is no need of going into details concerning this harmony if the student has comprehended the previous lessons. Remember that the melodic quality is again predominant.

IV$_7$ may be used in any position. The following plan shows the preceding and succeeding harmonies.

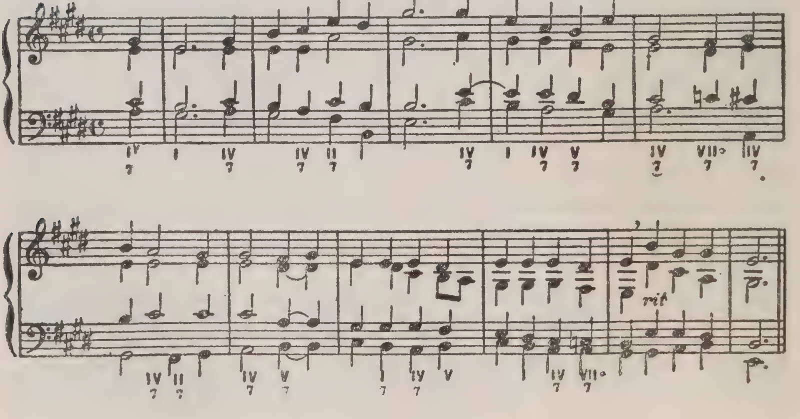
Succeeding chords:	IV$_7$	Preceding chords:
VII$_7$, VII$^\circ_7$, I, V$_7$, V$^6_7$, III$_{(6)}$.		**IV, I, I$_7$, VI.**
(II, II$_7$, I, I$_7$, VI).		**(VII$_7$, VII$^\circ_7$, II, II$_7$, V, V$_7$, III).**

Tonic formations are naturally the best preceding chords, because the I stands in relation of V to the subdominant. The best succeeding chords must be V formations, because the IV stands in relation of V to VII, and the chords on the leading-tone are principally V formations. The chords placed in parenthesis are less natural, but may be used as effectively as the others. The 7th may be "prepared" by diatonic progression or suspension or it may be introduced by skip; its natural progression is downward, but it may remain stationary. When it is considered a substitute tone for the root (see I$_7$) it may move with greater freedom; this is particularly the case when it appears in the soprano and when the succeeding chord is the I. Whenever the V triad in root position is the succeeding chord, the 3d of IV$_7$ must be placed above the 7th, in order to avoid parallel 5ths.





Lesson: Every preceding and succeeding harmony mentioned above is illustrated, but the material given permits of hundreds more. Invent a few and write three or four more examples similar to those below.


IV 7
I
IV 7
IV 7
II 7
IV 7
I
IV 7
V 7
IV 7
VII° 7
IV 7
IV 7
II 7
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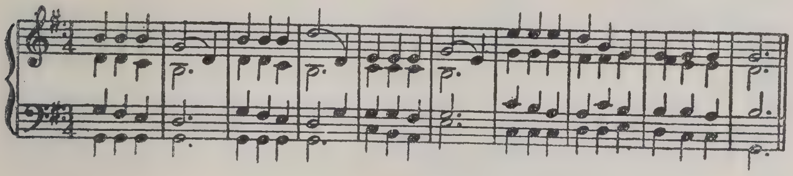
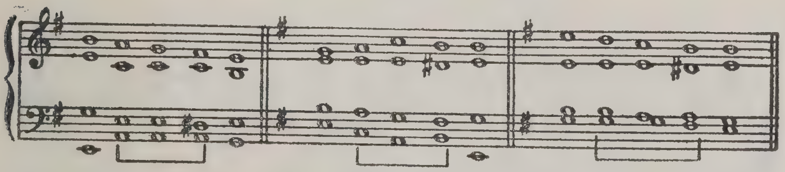
I 7
IV 7
V
IV 7
VII° 7
rit

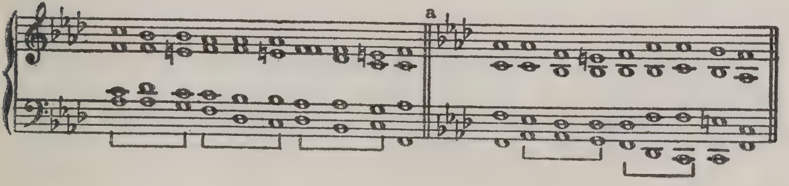


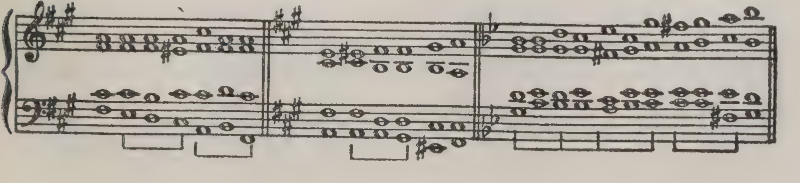
THE SUBDOMINANT SEVENTH CHORD IN MINOR KEYS

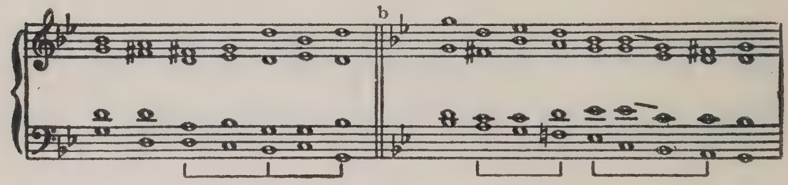
It may be constructed according to either the harmonic or melodic form of the scale, i. e., with natural or raised 3d.

The chord with the natural 3d in A minor is D-F-A-C; it may be used in any position. Preceding chords are IV, I, I_7, $I_{7<}$, VI, III (with natural 5th). The natural succeeding chords are VII°_7, V, V_7, V^6_7, $III^{6}_{(5<)}$, I^6_4. All other harmonies mentioned so far may be used, preceding as well as succeeding, if the voice-leading demands them. See rules for IV_7 in major, in treatment of the 7th.

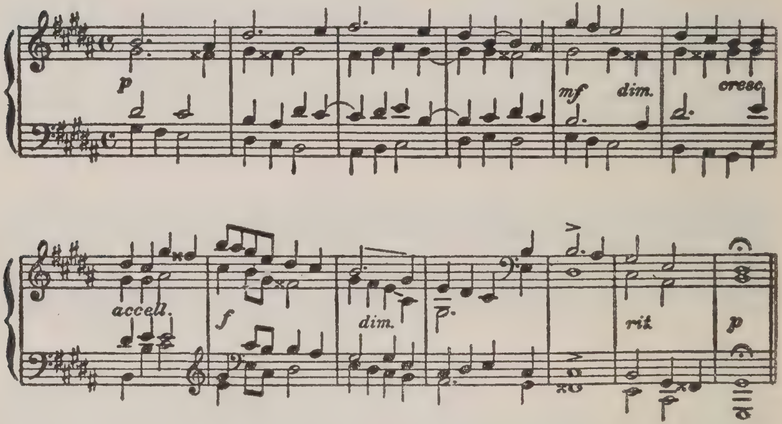






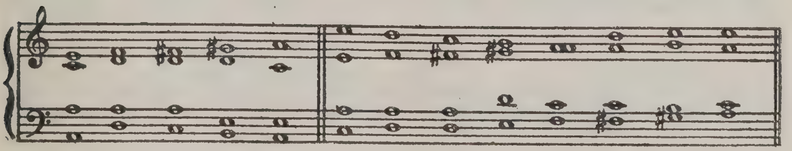


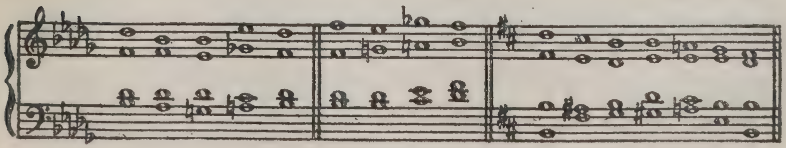
In leaving the IV$^6_4$ by skip, in example marked **a,** no rule is violated because the chord which follows is merely another form of IV, here IV$^6_5$. The parallel 5ths in example **b** are of no consequence because no change of harmony takes place.

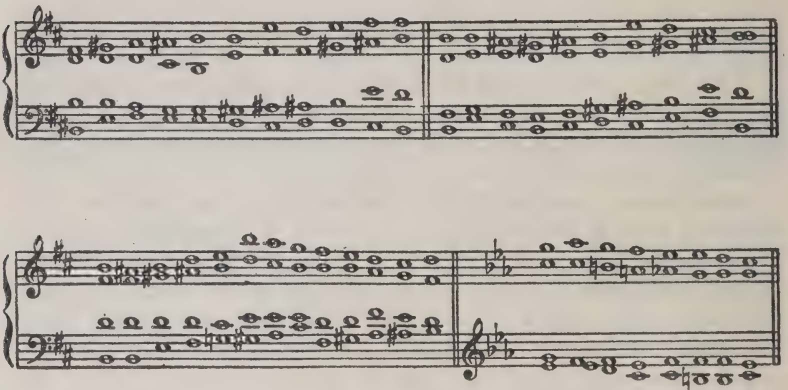


This little composition is perhaps more complicated than I intended it to be. Nevertheless, with the exception of the D♯ in soprano and tenor in measure 10, a passing-tone, every combination may be recognized as a real chord. There is no objection to the leading of the voices; the skip in the soprano from the 4th to the 5th measure occurs between phrases; on the other hand the "tumbling" of the voices in measure 8 is the result of a chord arpeggio. The 5ths in measure 9 are caused by two different positions of the same harmony, and measure 12 presents an interrupted cadence (the I, which is expected in measure 12, is delayed until the 13th), thus furnishing sufficient excuse for the parallel 5ths and the step of the aug. 2d in the bass. The effect of the whole "thought" is of course "instrumental" and not vocal.

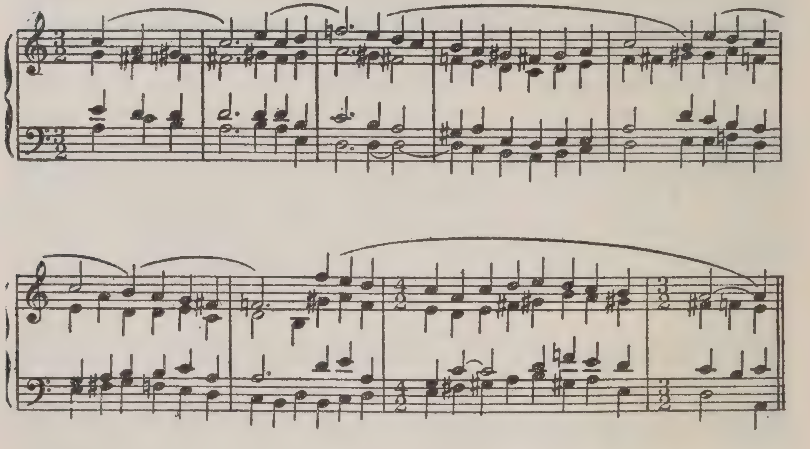
The IV$^{7}_{3<}$ with raised 3d is rather an effective combination; its sound is very mild because it is identical with that of V$_{7}$; yet its quality should be IV; altho it will be shown that even its V character may be made use of. The chord in A minor is D-F♯-A-C; needless to mention that it is effective in any position. The sensitive tone is the raised 3d. It must be remembered that it is an altered tone of the scale and that it is best approached by diatonic or chromatic progression, altho it may be reached by skip. Its best succeeding tones are the raised 7th or natural 6th of the scale; sometimes the natural 7th; rarely may it progress by skip. The best preceding chords are IV (with natural 3d), I, I$_{7}$, VI, III (with natural 5th, seldom with raised 5th), or I with raised 7th. All other chords are possible. The best succeeding chords are V, V$_{7}$, III$^{6}_{(5<)}$, V$^{6}_{7}$, II$_{7}$ (best with natural 5th), VII$^{\circ}_{7}$. Also possible are progressions into III with natural 5th and subtonic triad. The last named produces the effect of a V$_{7}$ resolving into a I, but if the triad of resolution is treated correctly (see lesson on VII in minor keys) the feeling of a modulation can be avoided, particularly within a phrase: if this progression happens to close a phrase, a new key would be established. Neither is a progression of IV$^{7}_{3<}$ into I feasible, because it also tends to produce the effect of a modulation into the subtonic key and, besides, there is no suitable leading for the raised 3d.







Analyze these examples and watch the leading of the voices carefully.



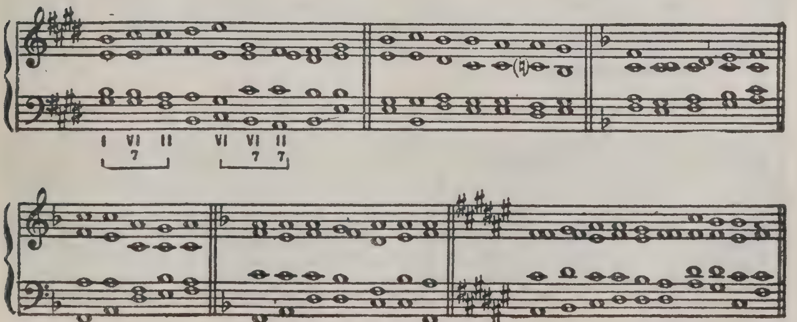
Rather sophisticated music; on the other hand, the harmonic coloring is interesting. The purpose was to show the ambiguous sound of $\text{IV}^{7}_{3<}$; the beginning sounds almost G major, but the feeling of that key is avoided through the use of harmonies essentially A minor in character. In the 5th measure the motive really ends in G major, altho the key feeling is more C major, the G major chord assuming the character of V. The first beat of the last measure calls for the A minor I, but the point of repose is delayed by the insertion of the plagal cadence IV$^7_{3<}$ and II$_7$. The faulty leading from V$_7$ to IV$^7_{3<}$, with its parallel 7ths and 5ths, is of course to be charged to color effect. The intelligent teacher will know how much freedom to allow the students in the use of these harmonies; my advice is to use them conservatively.

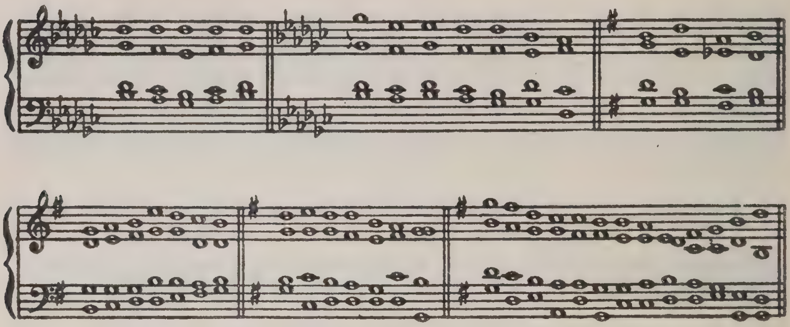
Lesson: Write, as usual, some short examples of both forms of IV$_7$ and invent some longer ones. It is **not** necessary to crowd the latter with these harmonies; an occasional introduction suffices.

THE SEVENTH CHORD ON THE SUBMEDIANT IN MAJOR KEYS

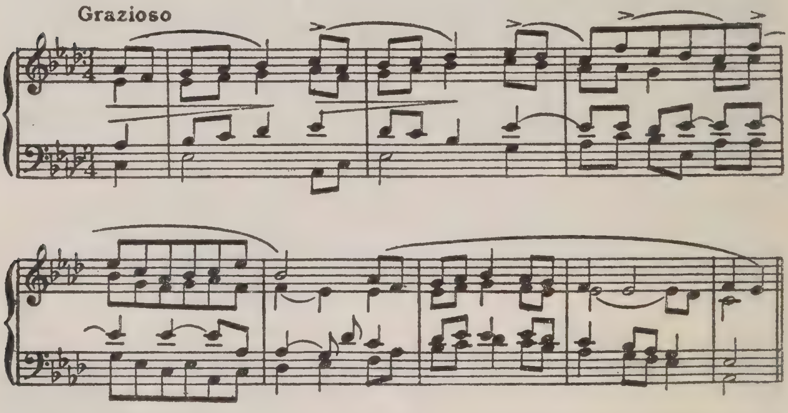
This harmony is very much worth while on account of its ambiguity, which makes it available, later on, for effective modulation, as it is identical with II$_7$ in major keys, and with I$_7$ and IV$_7$ in minor. As VI$_7$, it is really a I triad with added 6th of the scale, which gives it I character and, consequently, almost the same freedom of motion as the I itself. The chord in C major is A-C-E-G and it is met in every position. The 7th descends or remains stationary; it may be "prepared" or it may be introduced without preparation; the former is more conservative. It also has considerable freedom of movement, particularly if it is considered not as 7th of VI, but as 5th of I.

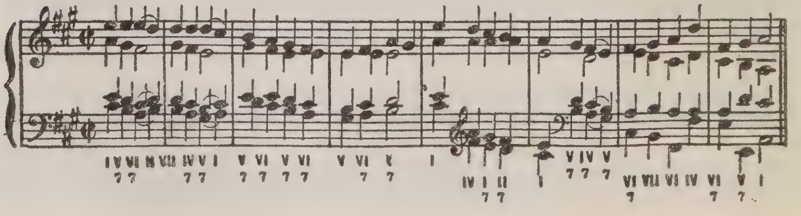
Succeeding chords are: II, II$_7$, IV, IV$_7$, VII$_7$, VII$^\circ_7$	VI$_7$	Preceding chords are: VI, III, I, I$_7$, V, V$_7$, VII$_7$.
Less strong are: V, V$_7$, III, I		Less strong are: II, II$_7$, IV, IV$_7$.





In playing and analyzing the above examples, the student will again notice the evident melodic character of the VI_7; the root of the chord, more than the 7th, furnishes the melodic element, emphasizing the fact that its character is that of an embellished I.




I V VI II VII IV V I
7 7 7 7
V VI V VI
7 7 7 7
V VI V
7 7
I
IV I II
7 7
I
V IV V
7 7 7
VI VII VI IV VI V I
7 7 7

These examples simply corroborate what was said above. In order to preserve the movement of 3ds in soprano and alto the 3d of V_7 is omitted in the second measure of the A♭ major example. Be sure to observe the indicated phrasing; begin each motive with a slightly greater amount of tone than the ending of the preceding motive required.

The example in A major begins with a sequence, each motive contained within one measure. The A in the soprano in measure 4 is an appoggiatura; the crossing of alto and tenor in the last measure results in stronger melodic leading. Notice also that the "figuring" of the chords does not take into consideration the different inversions. The student, by this time, should fully realize the importance of the fact that this second chord is a V_7, with its 5th in the bass, rather than a V^4_3; but he must never neglect to supply the figures to all the examples furnished; whether he indicates the correct inversion or not is of no moment, as it is taken for granted that he is able to recognize them by **eye** and **ear,** or **sight** and **sound.**

Lesson: Illustrate the use of VI_7 in major by means of short and long examples. As a reminder: Try once in a while to transpose the furnished examples at sight.

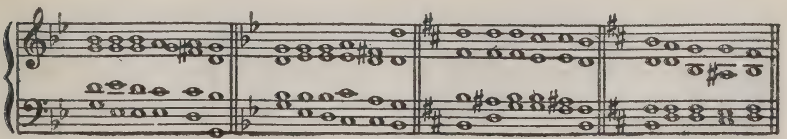
THE SEVENTH CHORD ON THE SUBMEDIANT IN THE MINOR KEYS

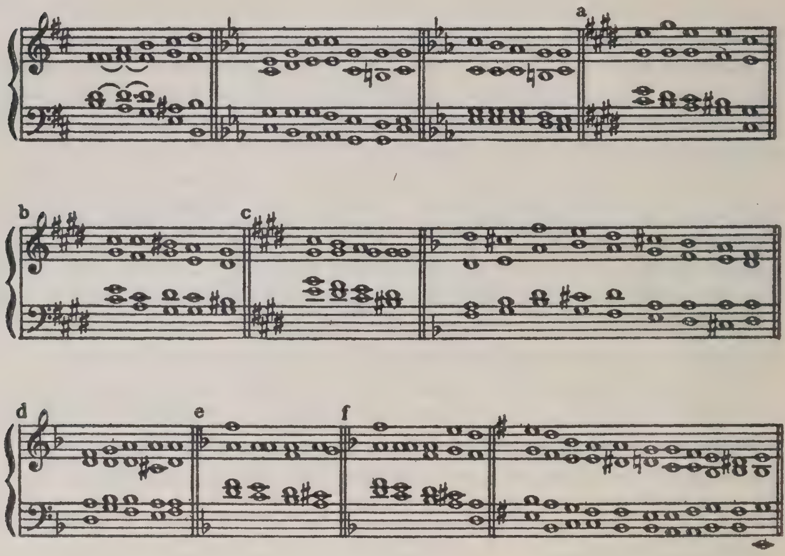
The root of this chord may be either the natural or the raised 6th of the scale.

The chord in C minor, built on the natural 6th of the scale, is A♭-C-E♭-G, strongly discordant but very effective, and all positions are of equal value.

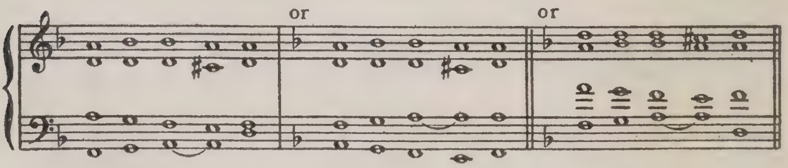
The best preceding chords are: VI, III (with natural or raised 5th), I, I_7, $I_{7<}$, V, $V_{3>}$, V_7, $V^7_{3>}$—less effective are II, II_7, IV, IV_7.

The strongest succeeding chords are II (of little value because of its limitations), II_7, (IV,) IV_7, VII^{o}_7—less strong are V, V_7, III, I; here again it is quite possible to use $V_{3>}$, $V^7_{3>}$, $III_{5<}$, as some of the following examples will prove. As a rule the 7th descends, with the usual exceptions.





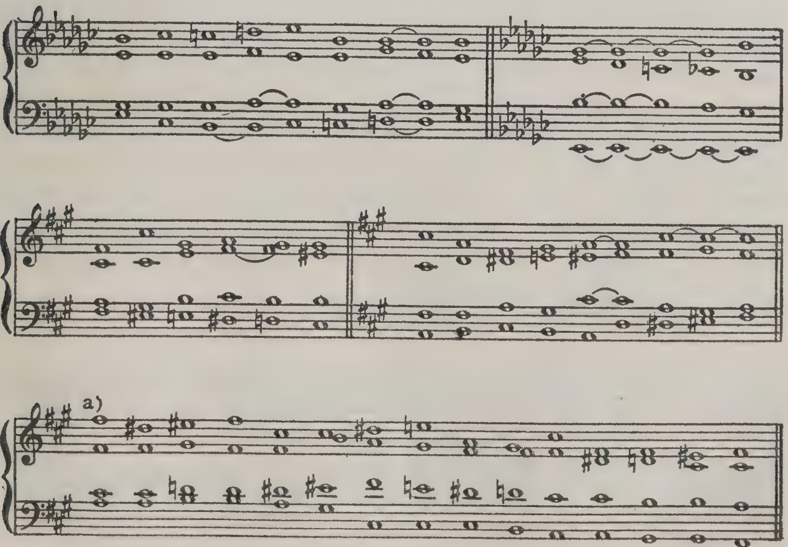
It is well to remember: Do not lead a voice into a tone which is held over in another voice from the preceding chord, unless the held tone lies below. The reason for this is that a held tone frequently sounds like a "pedal point", and, as such, is more effective on a "lower level". Example **d** is not particularly good, because A is the held tone and the leading of the B♭, in the tenor into A becomes ineffective. If the voices were rearranged as follows there would be no objection, because now the A lies below the voice which leads from B♭ to A.

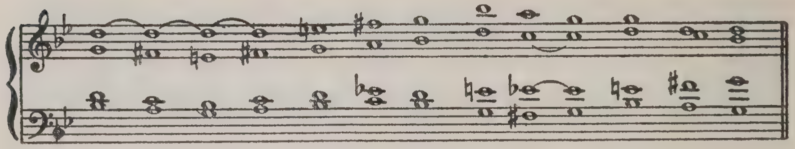


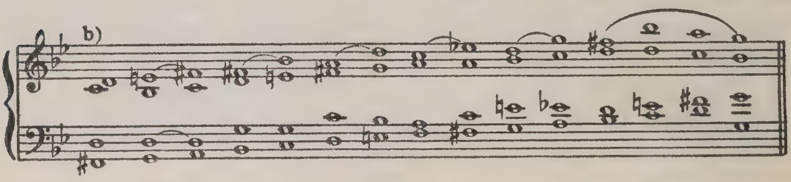
Neither is example **e** very good, but at **f** the sound is not objectionable because the A in the VI_7, leaps into E of the V_7. In the example marked **a**, this condition is avoided by leading the G♯ in the alto to F♯, but that produces rather awkward parallel 7ths between bass and alto. There is absolutely no objection to the leading of the voices in Ex. **c**; if for instance the G♯ in the alto were played by a French horn and the other voices by strings, the effect would be very beautiful, in spite of the close positions of the chords; of material advantage would also be the difference in tone color of the instruments employed. Beware! Do not judge **sound** entirely from the color of the piano tone; use your imagination! The aug. 2d in Ex. b is, of course, unobjectionable, coming, as it does, between two motives.

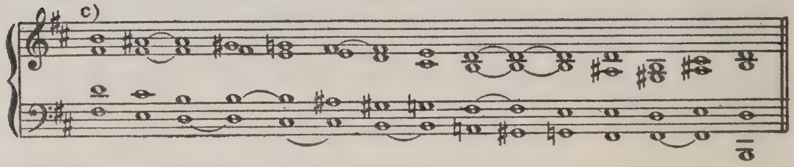
The seventh chord on the raised 6th of the minor scale has great charm on account of its evasive character, being identical with II_7 in minor and VII_7 in major.

This harmony in A minor is F♯-A-C-E. It may be introduced freely but the F♯ must lead either into G♯ or F♮ or G♮. The preceding chords are: VI, I, I_7 in both forms, III in both forms, IV, IV_7 in both forms; also V, $V_{3>}$, V_7, $V^7_{3>}$, VII; rarely VII°_7, II, II_7. The succeeding harmonies include: II_7, IV_7, V, VII°_7, VII, III (both forms), rarely VI, and almost never the I, because it is part of the $VI^7_{1<}$, minus its most interesting element, the raised root. Progressions into either form of I_7 are possible but of purely melodic value.

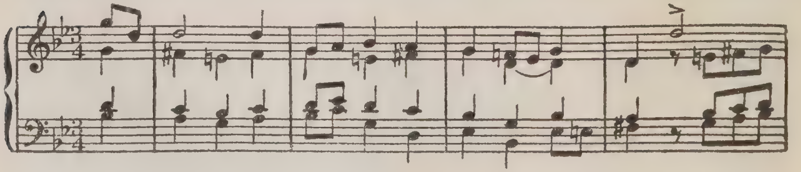


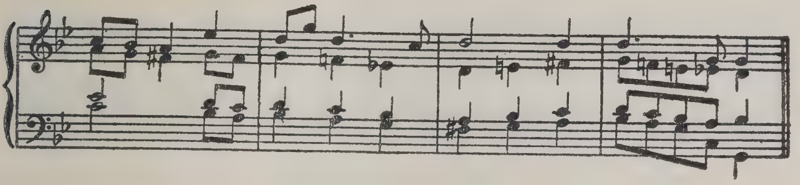


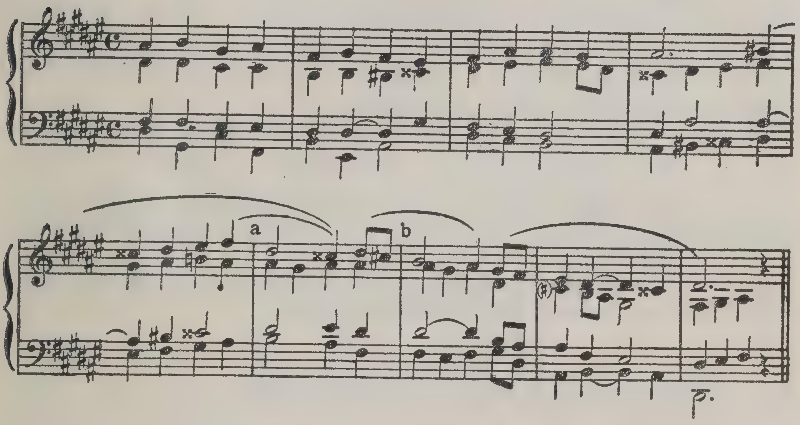




An analysis of the examples will show a great deal of diatonic voice progression, which is, after all, the strongest and most effective. The movement of the bass in examples **b** and **c** deserves particular attention. In example **a**, the $VI^{7}_{1<}$ comes perilously near establishing the C♯ minor key, emphasizing the fact that it stands in relation of II_7, to that harmony; but the key of F♯ minor is speedily reëstablished by the succeeding chords. The IV_9 in Ex. **b** sounds better than any other harmony, and that is sufficient excuse for its presence. Note, in Ex. **c** that the customary intervals of the ascending melodic minor scale are now used descending.







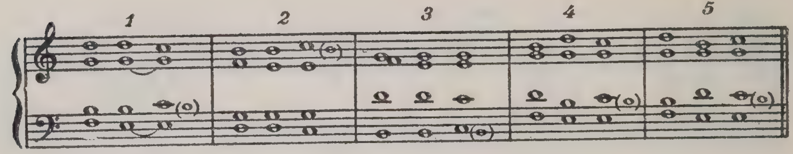
In both examples, notice particularly the logical leading of all four voices; play each voice by itself. By so doing you will be more than ever convinced that harmony is the outcome of simultaneous sound of several **melodies.**

The D♯ minor example furnishes a happy mixture of $\mathrm{VI}^{7}_{1<}$ and the ordinary VI_{7}; compare the mild sound of the former with the strong dissonance of the latter. The second half contains 5 measures caused by the reiteration of the motive at **a** in the one marked **b.**

Lesson: Demonstrate the possibilities of VI_{7} and $\mathrm{VI}^{7}_{1>}$ by adding to the short examples furnished, and invent some longer ones. Never neglect the analysis of any examples and particularly those written by yourself. Only so may you be certain of a perfect comprehension of the lesson.

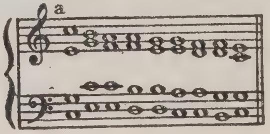
THE SEVENTH CHORD ON THE MEDIANT IN MAJOR KEYS

This is perhaps the least important of all the secondary seventh chords. It can hardly be called a V formation, in fact it is rather a partially delayed I as the following example will prove:

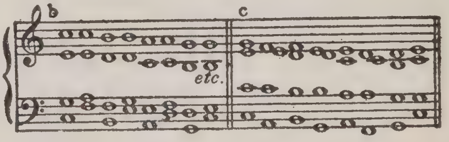


It will readily be conceded that Nos. 2 and 3 sound none too well; the others give a positive feeling of a double suspension of I or a single one of I_7. Therefore the following advice is good: If III_7 is led into I, or into I_7 preceded by V or V_7, the III_7 is only effective in root position.

Under different circumstances III_7 may be used in any position. Its natural preceding chord, next to III, is VII°, but as this is an unsatisfactory harmony, it is better to use VII_7, particularly if this progression is part of a chord sequence:



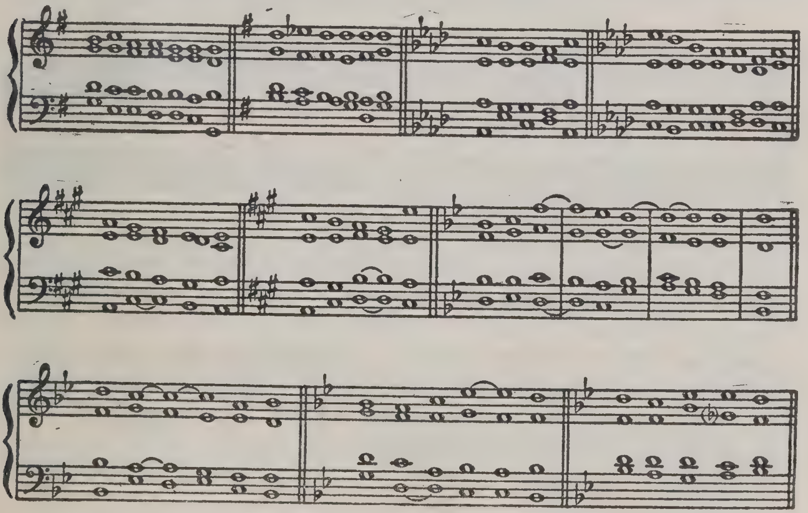
or, if triads are used preceding the 7th chords, the result will be as follows:



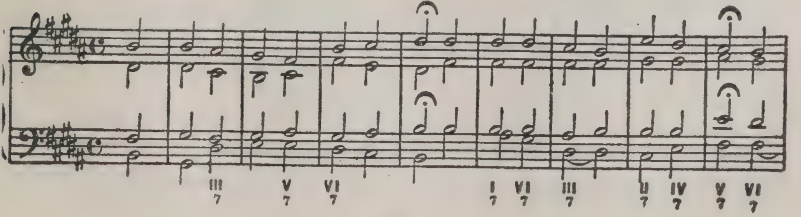
These sequences can be diversified by inversion of the voices. In Exs. **a** and **c**, all four voices are interchangeable, but in Ex. **b** only the upper three, as the bass moves from root to root and such progression is seldom effective in any of the other voices. Many writers of text-books have made a great deal of these and similar sequences but, on the whole, they are somewhat "cheap", because they are founded on the "lines of least resistance" and the modern composer, endowed with real imagination, will use such devices sparingly.

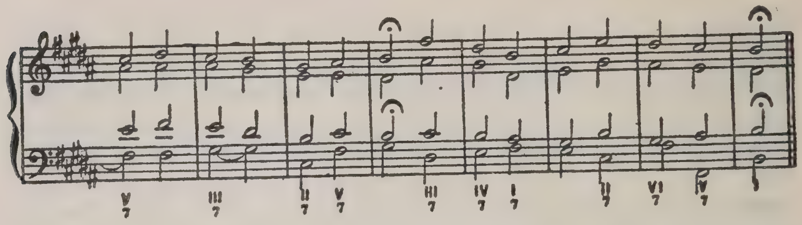
Because the III_7 is partly a V formation and partly I, there is no reason why the preceding chords should not include every harmony, i. e., III, VII, VII$_7$, VII$^\circ_7$, V, V$_7$, (II,) II$_7$, (IV,) (IV$_7$,) VI, VI$_7$. Those in parenthesis are of little value, because the voice-leading will be more or less awkward. The succeeding chords are: VI, VI$_7$, IV, IV$_7$, II, II$_7$, I, I$_7$ (see the opening paragraph of this lesson). Of little value are progressions into VII, VII$_7$, VII$^\circ_7$, V, V$_7$, III. The 7th descends;—sometimes it remains stationary. If the 7th lies in one of the upper voices, preferably in the soprano, it may skip a 3d upward, in which case the succeeding chords are IV$_7$ or II$_7$.

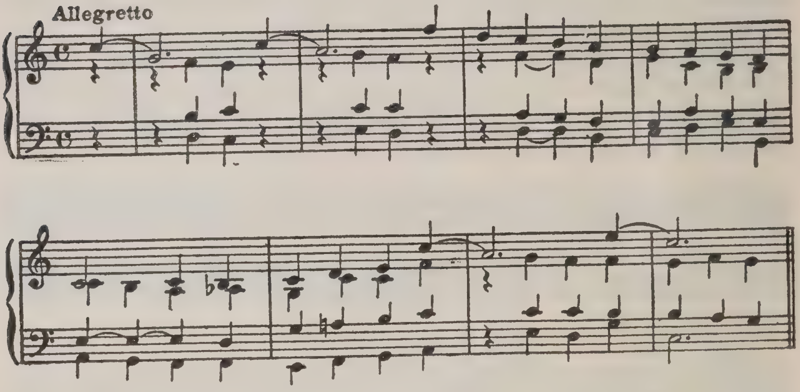
(The III$_7$ becomes a V$_7$ of the VI by raising the 3d, and in this altered form it is one of the most frequently met harmonies in the major tonality. This is another reason why the III$_7$ as such is of little importance.)



Notice the restricted movement of the intervals of III$_7$; also the care with which it is approached.







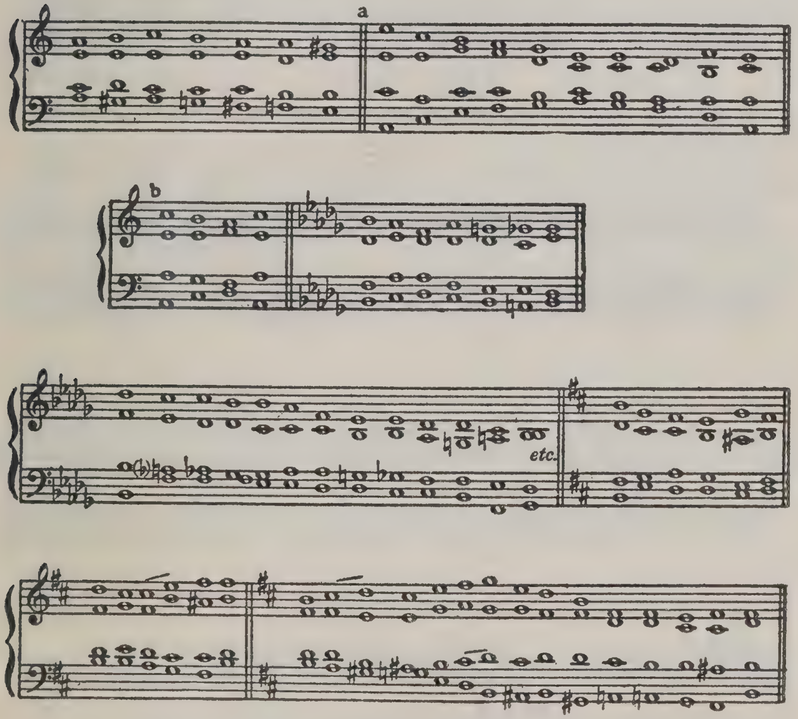
The Doxology lends itself to innumerable settings and perhaps particularly well to the exploitation of secondary 7th chords. The above setting contains every 7th harmony and so does the little C major melody. Notice also that the III_7, as introduced in measure 1 of the B major and in measure 4 of the C major examples, would sound better if changed to a V_7 by raising the 3d of the chord.

Lesson: As usual.

THE SEVENTH CHORD ON THE MEDIANT IN MINOR KEYS

This chord is possible in two forms: with either natural or raised 5th. The former is more important because it sounds the same as the I_7 and IV_7 in major and VI_7 in minor; and on account of the strongly discordant major 7th it adds a piquant touch to any harmonization. This chord in A minor consists of the tones C-E-G-B. It is effective in every position. The best preceding chords are III (but hardly $III_{5<}$), VII (but not VII°), I (particularly good with doubled 3d; see examples of I_7

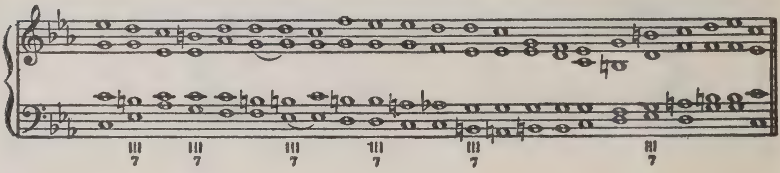
in major preceded by VI), VI_7, IV, IV_7, II, II_7. Of little value as preceding chords are V, V_7, $V_{3>}$, $V^7_{3>}$, $VI^7_{1<}$, $IV^7_{3<}$. The best succeeding chords are: VI, VI_7, $VI^7_{1<}$, IV, $IV_{3<}$, IV_7, $IV^7_{3<}$.

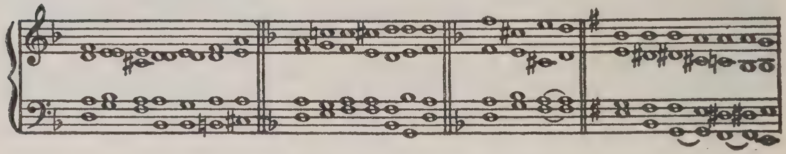


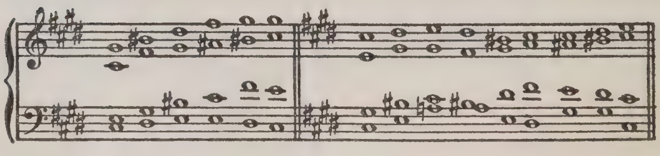
Notice that the 7th of the III is "prepared" either by diatonic motion or by holding it over from the previous harmony. In most cases the 7th descends, but there is no reason why it should not ascend or skip, the same as the 7th of I in major. Exs. **a** and **b** are good illustrations of the minor tonality without altered tones, and yet the "minor feeling" is always present.

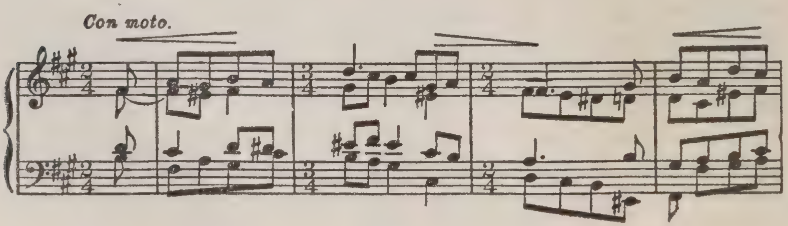
The 7th on the III with raised 5th is rather limited; its proper place is among the altered chords. (See III triad in minor.) Still, under certain conditions it may be introduced effectively. The chord in A minor is C-E-G♯-B; all positions are possible. Its character is that of a partially resolved V_7, which was explained in the lesson on III_7 in major keys.

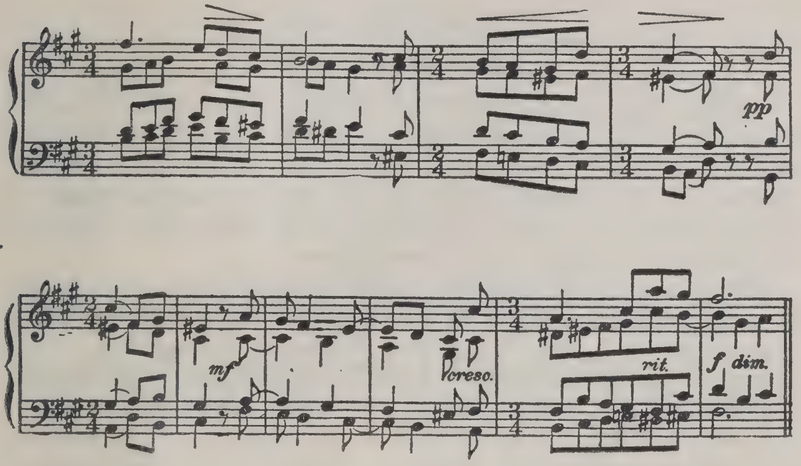
The preceding chords which are of any value are limited to I, V, V_7, VII°_7, VI, $VI^7_{1<}$, II, II_7, III; and the succeeding chords are: VI, $VI^7_{1<}$, I, $IV^7_{3<}$, IV_7 and II_7. The 7th descends. Exceptions: If the 7th lies in one of the upper voices it may ascend a half step. In that case the chord may be succeeded by VI_7, $VI^7_{1>}$, IV_7, and $IV^7_{3<}$. It may also skip a third upward making possible the use of the following succeeding chords: II_7, $II^7_{5<}$, IV_7, $IV^7_{3<}$, VII°_7.











I can only repeat, what I have stated so frequently, that it is almost nonsensical to speak of these various combinations as chords; and yet they may be so considered. The melodic leading of the four voices must ever receive first consideration. The little composition in F♯ minor should be studied closely: not once do the voices lead awkwardly; every combination represents some kind of a chord, and the uneven bar-divisions will seem perfectly natural if the soprano is played separately. As a whole it is but another good example of contrapuntal harmony.

Lesson: Do not spend too much time on the III_7; a few good illustrations will be sufficient. It will be good mental exercise to invent some examples which contain every possible 7th chord.

This closes a chapter which in my experience has always been difficult of comprehension. The student who has mastered the subject of secondary 7th chords may look forward to the coming work as something comparatively simple. He has now reached the peak of technical difficulties. May it prove so!

CHAPTER XI

CHORDS OF THE NINTH

As any vertical accumulation of 3ds has been—and is—considered a chord, there is really no reason why a 3d should not be added to any 7th harmony. In the last chapter I constantly emphasized the melodic character of the 7th, and it stands to reason that an additional 3d would almost completely obliterate the harmonic value of such combinations.

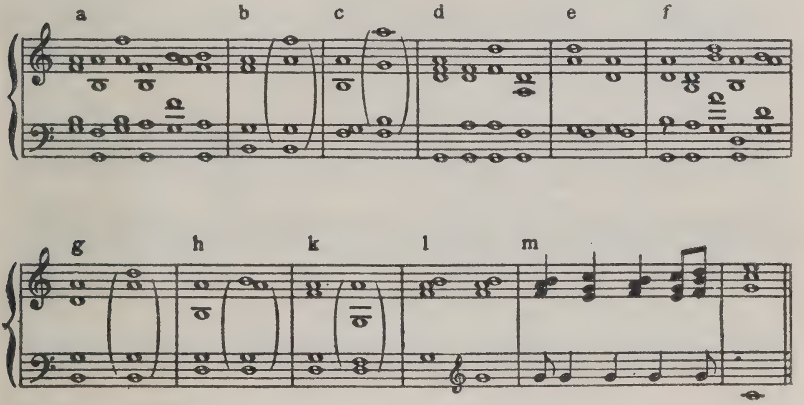
The study of 9th chords is therefore confined to those which have a certain harmonic value. These comprise in the major tonality V_9, IV_9, and II_9 and in the minor V_9 and IV_9. The reason for the consideration of the V_9 is apparent; it is a fundamental harmony, composed of overtones—altho in the minor key only partially so, as the 9th is of minor size. IV_9 and II_9 have distinct value in the cadences, where they represent strong subdominant formations, as will be shown in due course of time.

THE DOMINANT NINTH IN THE MAJOR KEY

It is formed by adding a major 3d to the V_7 chord and, as this 9th is a prominent and easily heard interval of the overtone series, its extreme mildness of sound is readily accounted for. Curiously enough, it is really a modern harmony—seldom found in the compositions of the pre-classical and classical periods. Since Wagner, it has become one of the most effective means of enriching the harmonic structure, undoubtedly due to its mellow, languishing and even sensual sound, yet it also lends itself effectively to magnificent climaxes. (Beethoven reaches the greatest climax in his Leonora Overture No. 3 by the use of the minor V_9, and a similar effect is to be found in Wagner's Vorspiel to "Meistersinger".)

The following rules apply to the use of all 9th chords: A harmony of the 9th consists of 5 tones; in order to make it available for the purpose of four-part writing the 5th is usually omitted (but even the 3d or the 7th may be omitted, if the voice-leading demands). This eliminates the 2d inversion, at least for the present. The chord may be used in root position, 1st and 3d inversions. An inversion with the 9th in the bass, as a harmonic combination, is impossible because the interval of the 9th, lying outside the octave, cannot be inverted. It is also well to keep the root and 9th at least a 9th apart, as otherwise a 2d would result which could not be heard as a 9th unless there were a distinctive difference in tone color. The 9th may appear in any voice so long as the root lies in the bass, but when inversions are used the 9th sounds well only in the soprano.

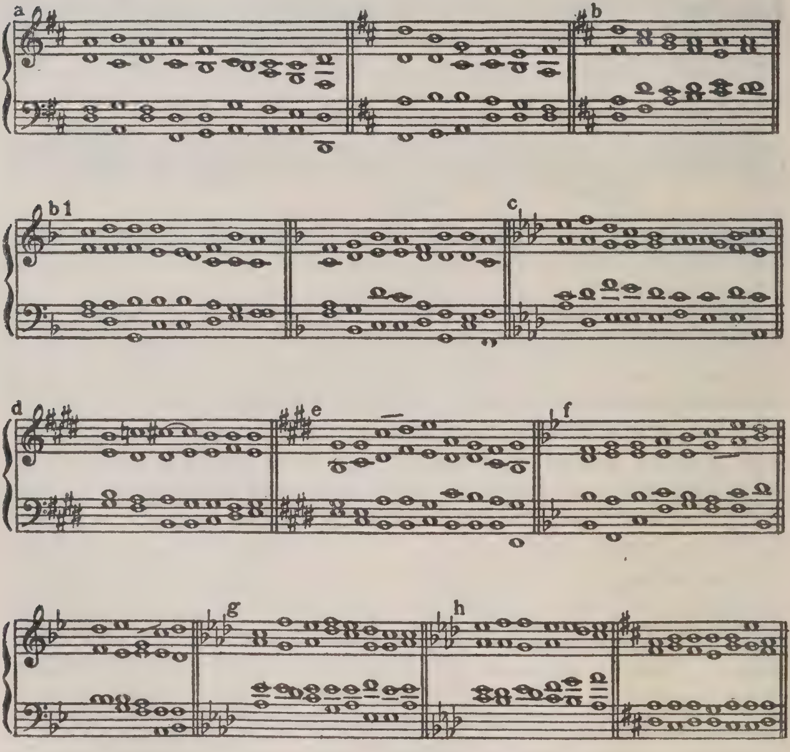
The V_9 in C major is G-B-D-F-A; in most cases D is to be omitted.



All the positions at **a** sound well; those in parenthesis at **b** and **c** are just a bit awkward because of the distance between the voices in which the root and 9th appear. None of the combiuations from **d** to **k** are of value unless proven by voice-leading. **l** and **m** show that juxtaposition of the three whole steps, from F to B, is quite possible; try to imagine the syncopated G being played by a French horn and the upper part by strings or by any combination of different tone color; the effect would be by no means unpleasant.

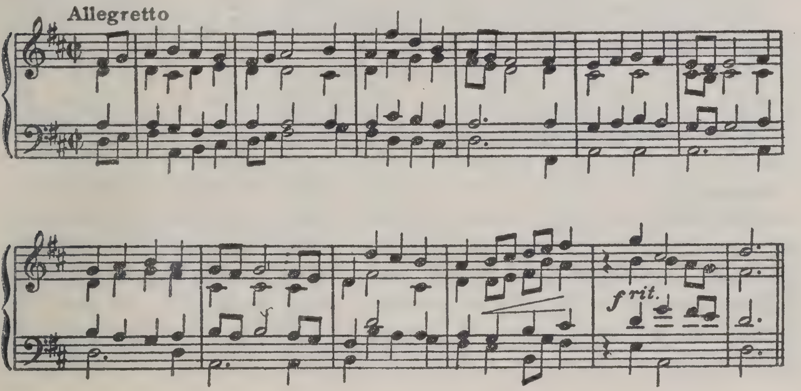
The natural resolution of V_9 is into I, the 9th descending into the 5th of I. The greater the number of tones a combination contains, the more limited will be the choice of succeeding harmonies, because some of the intervals demand positive leading. This is naturally true of all chords of the 9th. The harmonies succeeding the V_9 are practically restricted to I, I_7, VI_7, and III. V and V_7 must also be included, altho the 9th then loses its independence, appearing only as a melodic tone; when this condition prevails, it really makes no difference whether the 9th descends, ascends or skips. The 9th may be held over as one of the intervals of the succeeding chord, noticeably when this is VI_7 or II_7, but even then the 9th loses its harmonic significance.

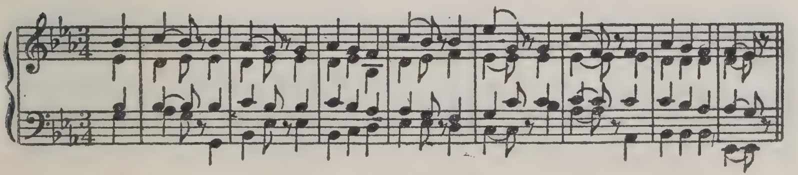
The preceding harmonies are practically unlimited, as any combination of tones may be led into a V formation; the best ones are I, I_7, IV, II, II_7, VI_7—the others, V, V_7, III, VII_7, VII°_7, III_7, VI, and IV_7, are weaker because most of them are simply different forms of the V idea; IV_7 as preceding chord necessitates the leading of its 7th into the 5th of the V_9—the interval usually omitted; very few progressions from VI to V_9 will be found practical.



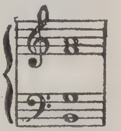
A great many more examples can be constructed than I have furnished. Exs. **a**, **c** and **g** show progressions into III; this is only a passing chord, usually a connecting link between V_9 and V_7.

This same condition prevails where the VI_7 follows the V_9, as in examples **b, b 1** and **h.** Others show the ascending and skipping 9th; also combinations where the 3d or the 5th is omitted, etc. Careful study of these illustrations is very important!

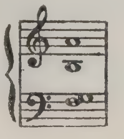




The first example contains a few passing-tones and the second some suspensions and appoggiaturas; otherwise they are nothing but simple, straightforward music. It is not necessary to figure inversions of the 9th chords; simply mark them V_9, but it is well to realize that the first inversion is figured $V^{7}_{\substack{6\\5}}$:



and the one with the 7th in the bass $V^{4}_{\substack{3\\2}}$:

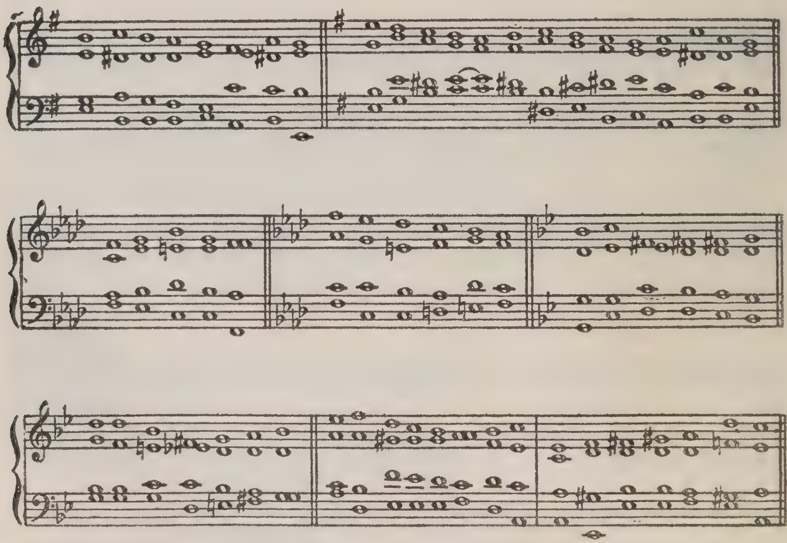


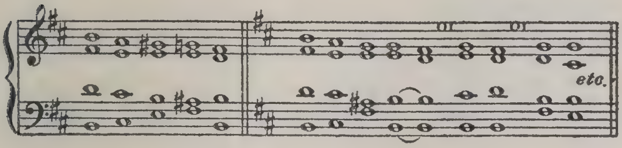
THE DOMINANT NINTH IN MINOR KEYS

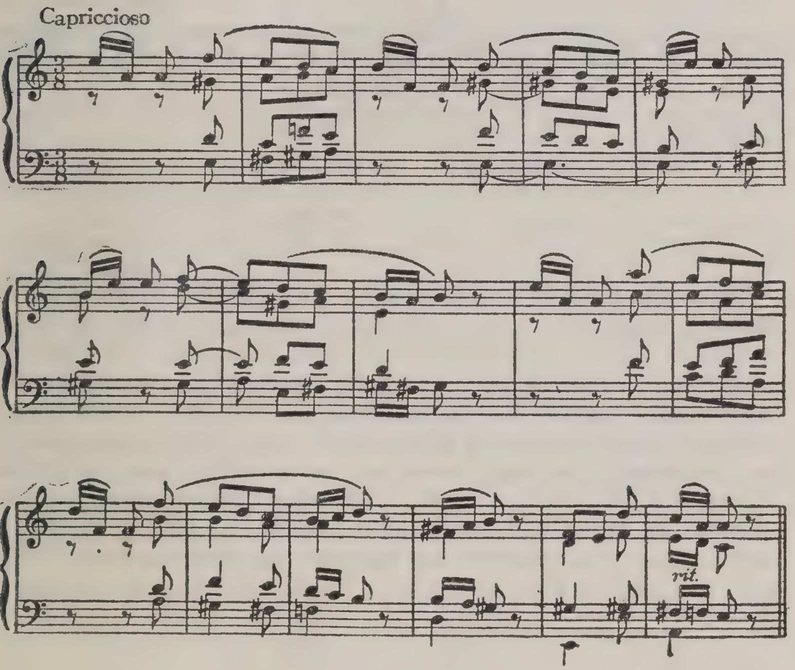
This harmony is not nearly so "mellow" in sound as the one in major, yet it is in every way as effective. Then, too, it is found, as part of the harmonic structure, in compositions of the classical and even of the pre-classical period, so that its importance antedates that of the major form.

The general rules for the treatment of all 9th chords, in the previous lesson, apply to the use of the V_9 in minor.

Remember that the 9th descends, seldom remaining stationary, and if it ascends into the 3d of V or V_7, it must be raised, in order to avoid the step of the aug. 2d. The preceding chords are the same as mentioned in major and so are the succeeding, but progression into I_7 is hardly feasible. If progression is made into VI_7, this harmony may be formed on natural or raised root. Where the V_9 passes through the III, the latter harmony is used with raised 5th. The preceding harmonies which permit of dual construction, may generally be used in either form, except the I_7 which can only be effective with minor 7th.







The short illustrations need no further comment; but do not neglect to study and analyze them carefully.

The little Capriccioso abounds, apparently, in cross-relations. Read again what was said in an earlier lesson in justification of such a condition. The A and F♯, in soprano and bass of the 8th measure, are so-called "changing tones". Do not regard the first chord in measure 12 as a V_9; the E in the soprano is a passing-tone.

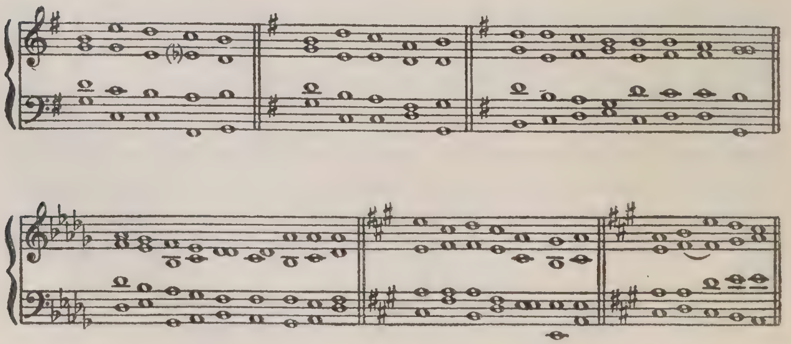
Lesson: Illustrate V_9 chords in minor keys.

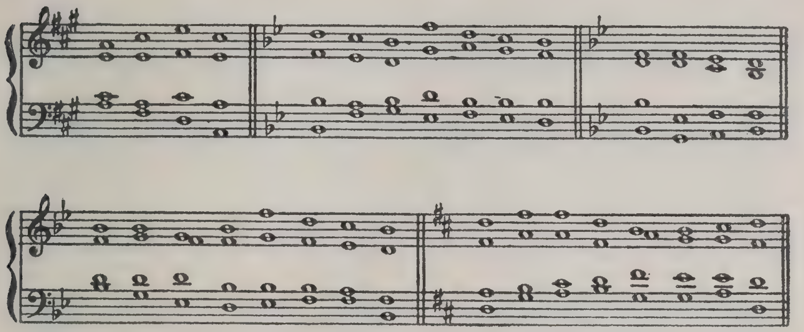
THE SUBDOMINANT NINTH IN MAJOR KEYS

The justification for calling this combination of tones a harmony lies in the fact that it supplies a strong IV element for the cadence. The chord in C major is F-A-C-E-G; subject to the general rules laid down for the use of V$_9$. The best preceding chords are: IV, I, I$_7$, VI, VI$_7$, II, II$_7$; other harmonies are of little importance. The succeeding chords can be figured out on the assumption that the chord is a V$_9$, which it may become in reality, if the E is changed to E♭.

Therefore:
If V$_9$ is followed by I the IV$_9$ is followed by (VII)
" " " " " I$_7$ " " " " " VII$_7$ or VII
" " " " " III " " " " " II
" " " " " VI$_7$ " " " " " V$_7$ (V)

Resolution into VII is of little moment, on account of its limited possibilities. One might possibly meet with it in sequences. In all the progressions mentioned the 7th and 9th descend. It is also possible to have the chord succeeded by I$^6_4$; the 7th and the 9th then usually skip a 3d downward. A progression into I$_6$ is not of great value, as the 9th would have to be kept stationary, which is also the case when the succeeding harmony is the V triad or III$_6$. The chord is seldom effective in any but its root position; the 9th may lie in any of the upper voices, but on account of its melodic quality it is advisable to use it mostly in the soprano. It is not necessary to "prepare" the 9th.





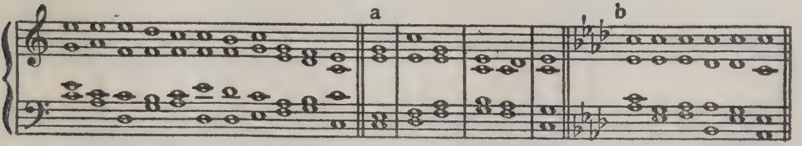
After having played and analyzed the examples you will readily admit the limitations of IV_9. Whenever V_7 is the succeeding chord, the effect is good; all other progressions are more or less strained.

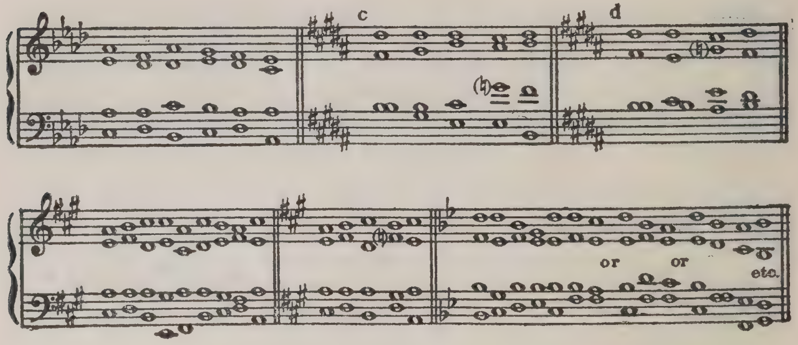
THE NINTH CHORD ON THE SUPERTONIC IN MAJOR KEYS

Again we are dealing with a combination of tones which has distinct value in the cadences as a IV formation. In regard to the disposition of its intervals, it is naturally just as limited as the IV_9, and if the student understands the IV_9, he will have no difficulty in dealing with the few possibilities of the II_9. Effective preceding chords are II, II_7, VI, VI_7, IV, IV_7, and I. The best succeeding chords are found by comparison with those following the V_9.

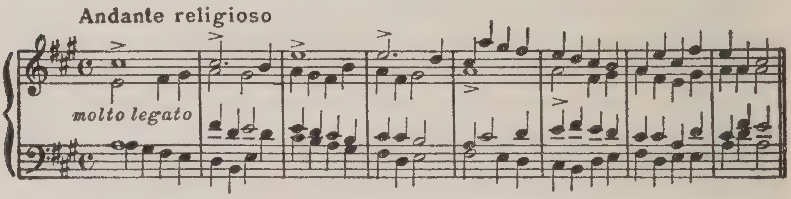
If V_9 is succeeded by I	the II_9 is succeeded by V
“ “ “ “ “ I_7	“ “ “ “ “ V_7
“ “ “ “ “ III	“ “ “ “ “ VII
“ “ “ “ “ VI_7	“ “ “ “ “ III_7

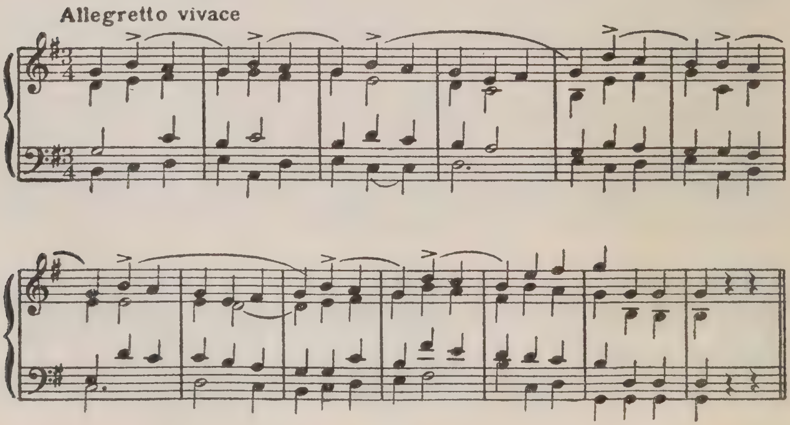
Progressions into I_6 or I^6_4 are possible but of little consequence; while progressions into VII_7, VII°_7, V^6_7, III_6 are good, as they are simply other forms of the V.





The example at **a** is chiefly interesting on account of the progression of II_9 into IV_9; beside, the voice-leading throughout produces piquant rather than beautiful sounds. Notice the quaint effect of the harmonization of the monotone in the soprano in Ex. **b**. The inversions of II_9 in examples **c** and **d** are most unsatisfactory and may safely be discounted.


Andante religioso
molto legato


Allegretto vivace

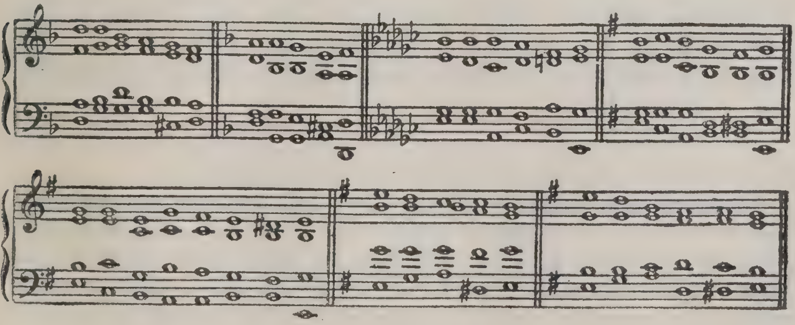
The chime effect, in the Andante religioso, lends itself well to illustrating the different chords of the 9th. The example in G major is simply the result of the determination to introduce the 9th chords as often as possible. There is a certain charm in the "ostinato" effect of the soprano and, in order to be consistent, the 8th measure had to be treated as a delayed V, the first chord being a IV over the root, and the second one an elliptic VI_7. The doubled F♯ in the 10th measure is hardly a leading-tone—the motive takes the color of an E minor key in its natural form. The skip of a 7th in the bass, measure 11, from B to C, is justified because it comes between motives.

Lesson: Short examples, illustrating both the IV_9 and II_9. Write your longer examples simply; it takes a great deal of experience to appear effectively sophisticated! Your teacher will know how far you may go in striving for premeditated effect; it depends on your talent!

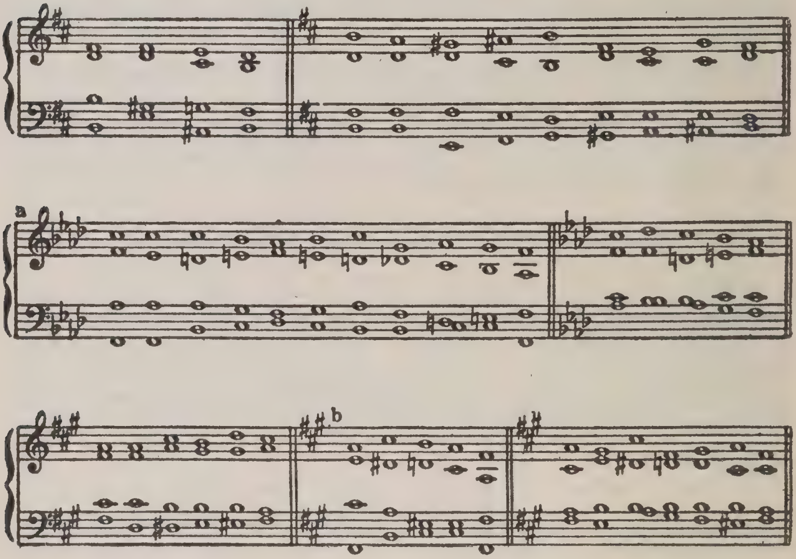
THE SUBDOMINANT NINTH IN MINOR KEYS

This is the only chord of the 9th, in the minor tonality, besides the V_9, to be considered seriously. It may occur in two forms, with natural or raised 3d. The one with the natural 3d sounds well only with the root in the bass; the 9th may come in any of the upper voices, preferably in the soprano. The best preceding chords are: IV, IV_7, I, I_7, VI, VI_7, II_7, and III (with natural 5th).

The only succeeding chords of value are: VII°_7, II, I^6_4, or I, II_7, and VII. The interval of the 9th is to be treated as in every 9th chord.

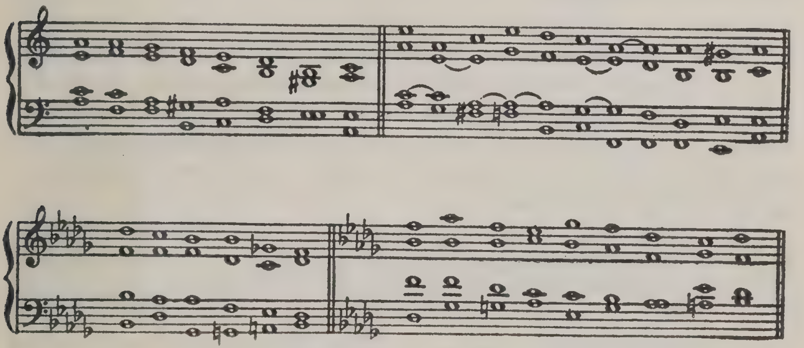


The IV$_9$ with 3< is a valuable formation. It sounds like a V$_9$ and may, therefore, be used in root position, 1st and 3d inversions. The preceding chords are the same as mentioned for the ordinary IV$_9$. The progressions into the succeeding chords are governed by the leading of the raised 3d, which is the raised 6th of the minor scale. As mentioned before, this tone may move into raised or natural 7th of the scale or into the natural 6th. The succeeding chords are therefore: VII$^{\circ}_7$, II with natural 5th, V$_7$, VII, possibly II$_7$.

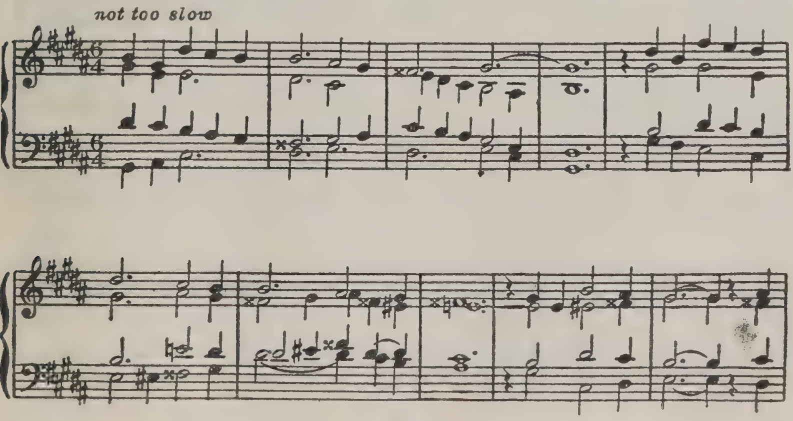


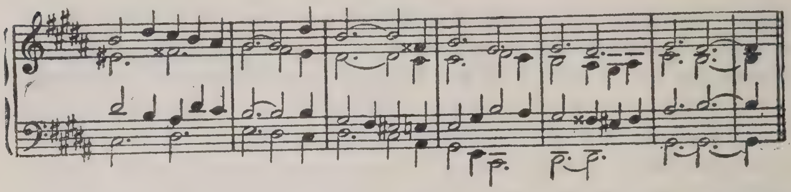
It is not difficult to add many more examples to those given; this is left to the student's ingenuity. Example **a** contains a progression from V$_7$ to IV$^9_{3<}$ —the effect of the whole illustration is most satisfying on account of the richness of sound. At **b** the succeeding chord is a V$_9$; the voice-leading is unobjectionable, even tho the 7th of IV skips into the 3d of V$_9$.

It might not be amiss to mention that a ninth chord on the submediant is not without certain harmonic value, because its construction is the same as the IV$_9$ in major keys. Besides, it must be borne in mind that the major key and its relative minor tonality have many chords in common, a fact which sometimes creates a rather charming ambiguity of sound. This has been mentioned repeatedly in previous lessons. Possible preceding chords for VI_9 are: VI, VI_7, $VI^7_{1<}$, I, I_7, III or III_7—the last two with natural 5th; also IV or IV_7. The succeeding chords are practically limited to VII°_7, IV, II_7 and VII_7 on natural 7th of scale, also III with natural 5th; this progression, however, places a great emphasis on the relative major tonality; a progression into $VI^7_{1<}$ is also effective.



These few examples are sufficient to prove the usefulness of VI_9. No further explanations are necessary, as a careful analysis will reveal the application of some of the possibilities mentioned above.

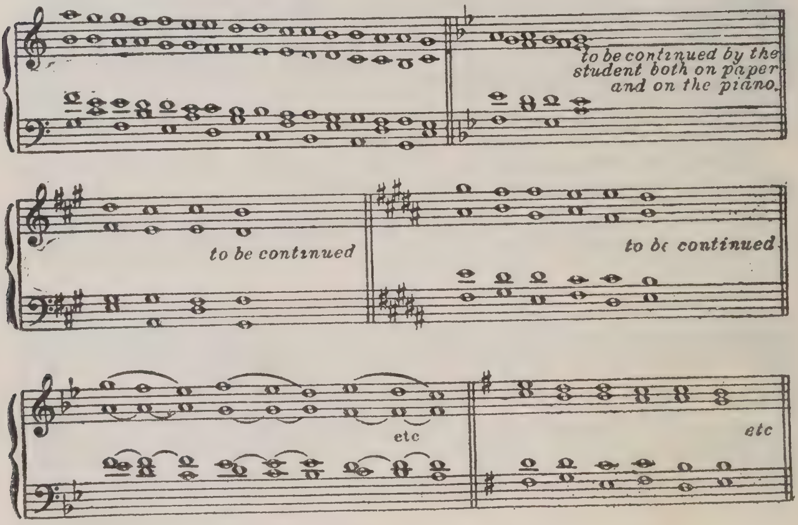




Analyze the little piece in G♯ minor and play it "molto legato" throughout.

Lesson: Add to the short examples illustrating IV_9, $IV^9_{3<}$, and VI_9; also try to introduce them in a few long examples.

I cannot close this chapter without calling attention to the fact that 9th chords are possible on any tone of a scale as the following sequences will show. Those which have some harmonic value have been dealt with,—the others are purely accidental chord formations.


to be continued by the student both on paper and on the piano.
to be continued
to be continued
etc
etc

These sequences can be augmented almost ad infinitum simply by choosing different positions of the 9th chords, but that is merely mechanical work and of little musical value. Such work will never develop imagination nor musicianship.

CHAPTER XII

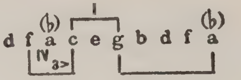
ALTERED CHORDS

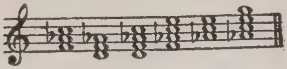
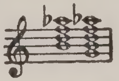
INTERCHANGEABLE HARMONIES OF THE MAJOR AND MINOR TONALITIES ON THE SAME TONIC

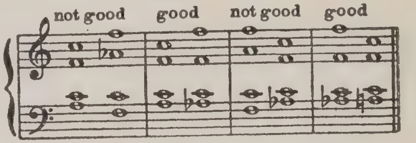
Ever since key-relationship became a factor of importance in the development of musical form and in the harmonic coloring of musical thought, it has been assumed that those keys are nearest related which have the greatest number of chords in common. At first the limits of relationship were very much confined; but each generation of musicians extended them, until, in our time, limits have been practically effaced and it has become possible to explain the relationship of any combination of tones in any key. In other words: the musical "family tree" has grown to such proportions that its trunk, limbs, branches, twigs, leaves, blossoms and fruit form an all-embracing organic entity. Future generations will graft new ideas on this tree; dead wood will be removed; but the trunk, grown from the seed called "sound", will prove imperishable.

In the chapter on scales I have shown why the dual tonalities, the major and relative minor keys, supplanted the older system. Dead wood was removed in order to make possible the development of harmonic color combinations. Slowly, during the last few centuries, this somewhat artificial relationship has been superseded by one which is more natural, and to-day it is generally conceded that the major and minor tonalities on the same tonic are the most closely related because their harmonic combinations may be used interchangeably at any time. No matter how many combinations indigenous to a minor key are introduced in its parallel major—the feeling of major remains as long as the points of repose give this impression; and reversely—the feeling of minor will prevail.

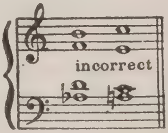
The minor formations most easily accounted for in the major tonality are those which have subdominant character, because the major tonic stands in relation of dominant not only to the major subdominant but also to the minor triad on the fourth degree of the scale; which means simply that, for instance, the C major triad (even tho it be the I) is V to F minor as well as F major. The diagram explains this more clearly.

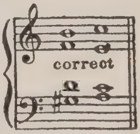


This positive fact being understood, the following harmonies in the key of C major are readily accounted for.  But inasmuch as A is also a part of VII_7 and V_9 A♭ may be substituted here as well, explaining the presence of these chords  in the key of C major. The sign which most practically indicates a lowered interval is a short diminishing mark, >; thus the above chords are to be indicated as $\mathrm{IV}_{3>}$, $\mathrm{II}_{5>}$, $\mathrm{II}^7_{5>}$, $\mathrm{IV}^7_{3>}$, $\mathrm{VI}_{1>}$, $\mathrm{VI}^7_{1>}$, VII°_7, $\mathrm{V}_{9>}$. All these harmonies may be introduced as freely as their unaltered prototypes, except that some care must be exercised in the avoidance of cross-relations. This may be summed up in the rule: Chromatic alterations must be made in the same voice. Only the VII°_7, on account of its enharmonic character, is exempt from this rule.

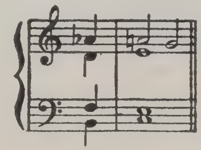


Other exceptions will be explained as occasions warrant. The use of the VII°_7 also demands a word of explanation. The chord B-D-F-A♭ may resolve to C major, C minor, F major or F minor, as was shown previously, but not, for instance, into A minor even tho the latter may be VI in C major.

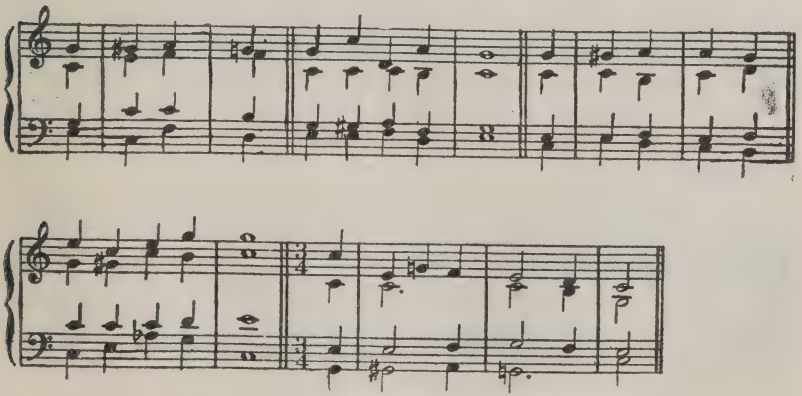




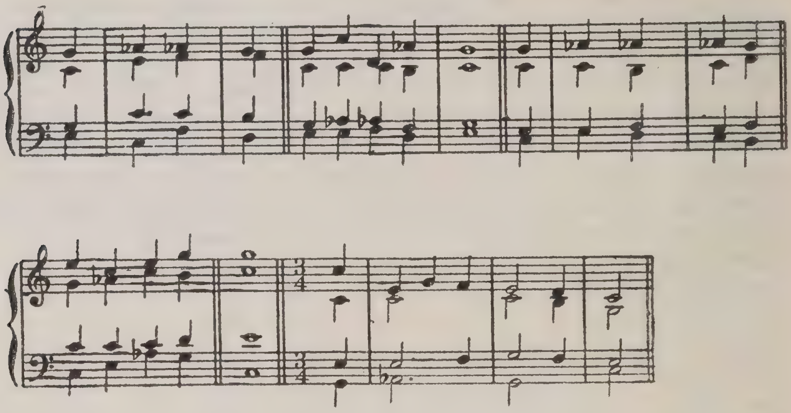
The example here indicated as "correct" should at present not be made use of in the key of C major. The following progression is not absolutely wrong, because here the A minor chord has lost its independence of character, being merely a melodic form of the I.



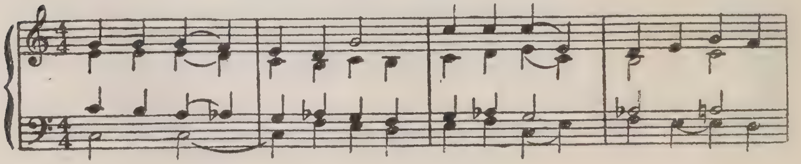
$II_{5>}$ becomes a diminished triad and should therefore be used mostly in 1st inversion (see II in minor keys). $IV^7_{3>}$ and $VI^7_{1>}$ are strongly melodic on account of the presence of the major 7th, and must be used discriminatingly. (If the work with secondary 7th chords has been fully understood, the student should have no difficulty regarding their possibilities in the present connection, but he is cautioned to use them sparingly.) A word of explanation is necessary in regard to $VI_{1>}$, A♭-C-E; this is an augmented triad; in fact it represents the $III_{5<}$ in F minor. Much confusion has been caused by that stupid rule: Use sharps in ascending and flats descending. I readily concede that the writing of any chromatic progression is of little importance if it is considered merely from a melodic viewpoint; but as soon as these tones form parts of a harmonic combination their writing must be governed by their relationship to the tonality which is being heard. If, for example, the key of C major is unmistakably established, the chord A♭-C-E should be written, no matter whether the A♭ is led into G or into A♮.

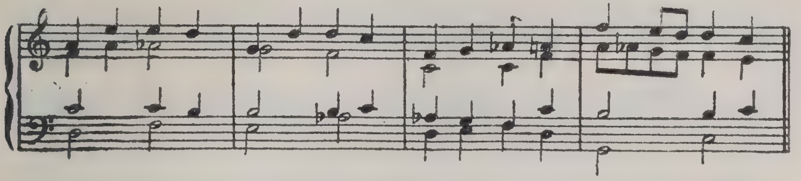


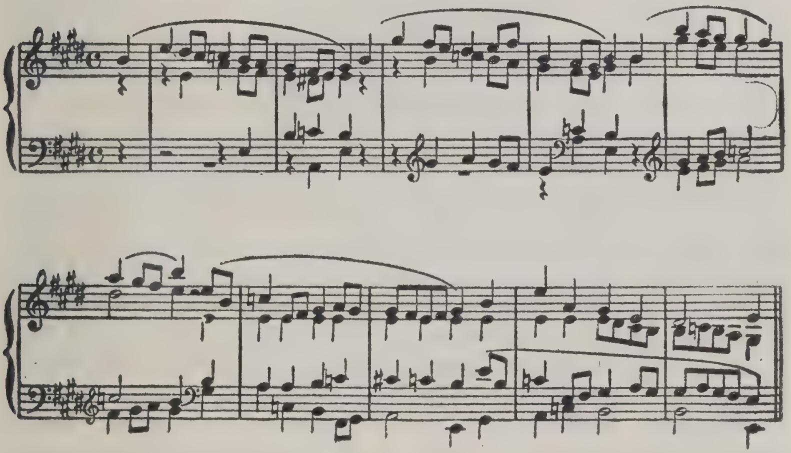
I am fully aware of the fact that the majority of composers would have written G♯ instead of A♭ in every one of the above progressions; but majorities are not necessarily right. In this case they are simply the victims of a pernicious rule—a tradition thoughtlessly accepted. If the above illustrations were utilized in the following way no one would substitute the formation G♯-C-E for the chord A♭-C-E. The sound-effect in both is absolutely identical, hence there can be no question of choice.

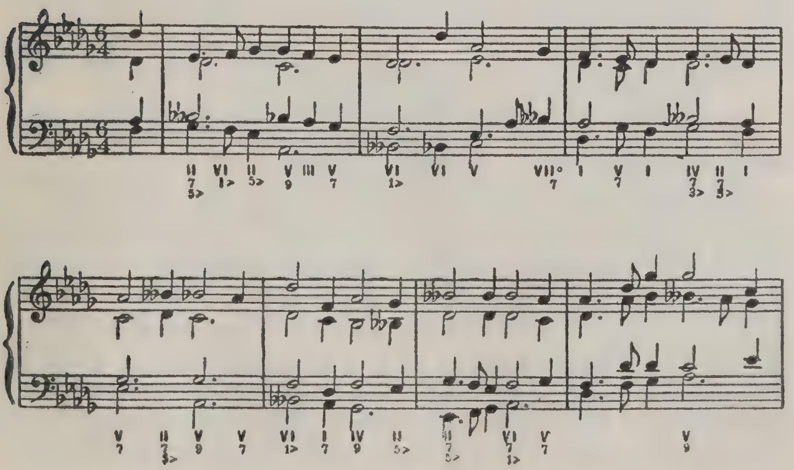


The matter of inconsistent "spelling" of chords will confront the student frequently in subsequent chapters, but I shall endeavor to explain such discrepancies, or rather divergences. After all, the composer is frequently influenced in "spelling" by reasons of expediency; but the student must first of all "know": then, if he be a composer who has something to say worth saying, he will also have developed the power of discrimination, and this will safely guide him in the details of penning his thoughts.








II 7 5>
VI 1>
II 5>
V 9
III
V 7
VI 1>
VI
V
VII° 7
I
V 7
I
IV 7 3>
II 7 5>
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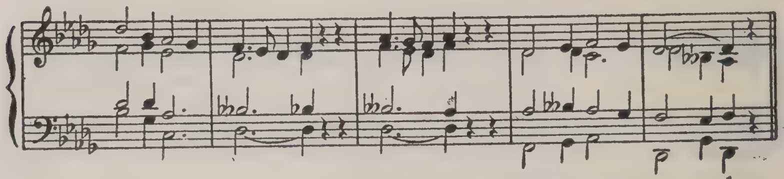
II 7 3>
V 9
V 7
VI 1>
I 7
IV 9
II 5>
II 7 5>
VI 7 1>
V 7
V 9



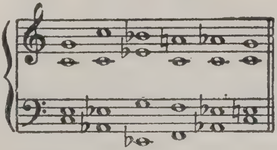
The first of these needs no explanations except, perhaps, measure 4 where the E in soprano and bass is used as a passing-tone, creating momentarily the sound of an E major triad. (In the chapter on VII°_7 chords, passing tones within the scale were shown; in the above case E♮ is used because it is a part of the C major tonality, altho the VII°_7 is really a part of C minor). The second example, in E major, is rather free in conception, employing a somewhat polyphonic style. The four voices enter successively instead of simultaneously; the beginning of the second phrase shows some three-part writing and the phrase beginning in the soprano in measure 6 is imitated by the tenor in measure 8. If this little example were played by a string quartet the effect would be quite charming. The third example, in D♭ major, has in measures 2, 5 and 9 instances where many composers would have written A♮, instead of B♭♭, but the latter is unquestionably correct.

Lesson: Short examples are hardly needed; the student should improvise at the piano combinations employing the lowered 6th degree of the major scale. Longer examples like those provided above must, of course, be written.

CHORDS CONTAINING THE LOWERED THIRD AND SEVENTH OF THE MAJOR SCALE

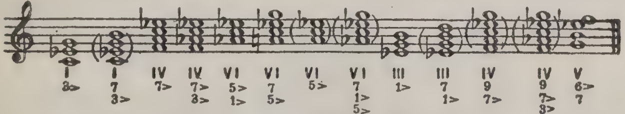
These two alterations may be considered simultaneously, altho the resulting chords must be studied individually.

It must also seem that if the 3d of the major scale is lowered, the result would be the complete destruction of the major tonality. This, however, need by no means be the case if the minor tonic is avoided at the end of phrases, and if the movement of the lowered 3d is restricted according to the following suggestions. The lowered 3d in C major becomes E♭; it is best preceded by E♮ or D, and best succeeded by D or E♮. If preceded by any other tone the succeeding one should almost invariably be E♮. In this way the feeling of the C major tonality is easily preserved. Of course there are innumerable exceptions. If, for instance, the altered tone is doubled, which may frequently happen, only one of the two can follow the above suggestions, as otherwise parallel octaves would result. Then, again, chords containing the lowered 3d may be preceded or succeeded by harmonies containing other altered tones of the scale, drawing rather heavily on the minor key color; in which case, the advocated leadings may be disregarded as, for instance, in the following progressions.



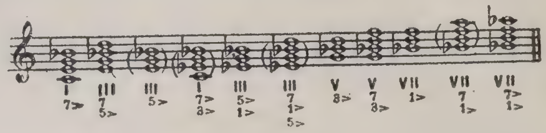
There is no doubt that the key sound remains C major, in spite of the fact that the lowered 3ds seem to move almost promiscuously, for this is mitigated by the correct leading of the B♭, the lowered 7th, as will be shown later. Another suggestion which will help to preserve the major tonality is to have chords containing the lowered 3d followed by those containing the lowered 6th, because the latter interval usually belongs to a minor IV formation which most readily leads back into the major tonic. Please notice that I am giving suggestions rather than rules; the student's ability to conceive these alterations really as such, and not as integral parts of the parallel minor tonality, must be his guiding thought.

The chords which result from the introduction of the lowered 3d in C major are:

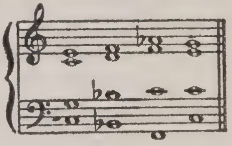


The chords placed in parenthesis are of comparatively little value and should be used sparingly, particularly $\mathrm{VI}_{5>}$, $\mathrm{IV}^{9}_{7>}$, $\mathrm{IV}^{9}_{\substack{7>\\3>}}$ because they furnish few effective possibilities of progression. The triad on the lowered mediant is again one of those chords frequently written as D♯-G-B or rather G-B-D♯. The excuse for the D♯ is the same as mentioned for the use of G♯ instead of A♭. Read what was said about it in the previous lesson and you will be able to draw your own conclusions. The same is true of $\mathrm{V}^{6>}_{7}$. This chord sounds best if E♭ lies above F.

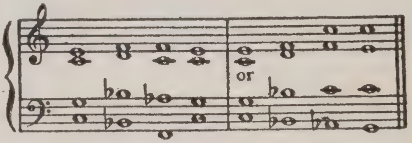
The following harmonies result if the 7th of the major scale is lowered



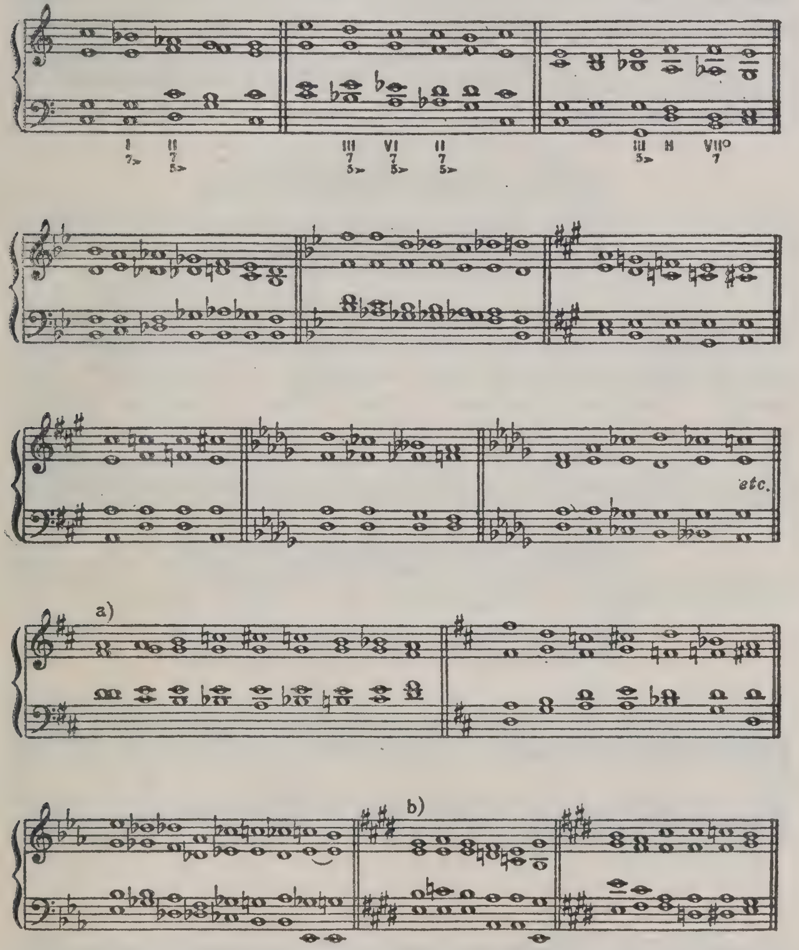
Again, those in parenthesis are rather difficult to handle, tho by no means impossible. The tone B♭, being the 7th of the descending melodic form of the minor scale is most naturally succeeded by A♭ or A♮, but it may also be led chromatically into B♮. The best preceding tones are C, B, also A or A♭. These suggestions do not bar innumerable exceptions (which can be explained with a variety of reasons) as for instance:



The effect is undoubtedly C major and while the B♭ is correctly preceded by C in the bass, the succeeding tone, which should here have been A♭, is placed neither in the bass nor tenor but in the soprano. Evidently the melodic line in the soprano has taken precedence over the desired leading of the B♭, as otherwise the progression could have been handled as follows:

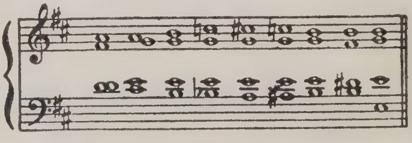


but all three versions sound well and are therefore correct. Another matter which concerns the chords $\mathrm{I}_{7>}$, $\mathrm{III}^{7}_{5>}$, and $\mathrm{III}_{5>}$ deserves attention. It is of no use to deny that they represent strong dominant formations of the subdominant key and they would have to be treated as real dominants if the subdominant key were the tonic. But this not being the case, their inclusion in the list of alterations is justified because they may lead into any chord containing the 6th degree of the scale and, if the altered tone is led chromatically upward, also into dominant formations, as some of the following examples will readily prove.

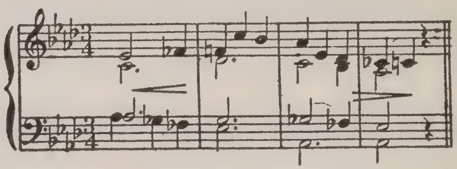


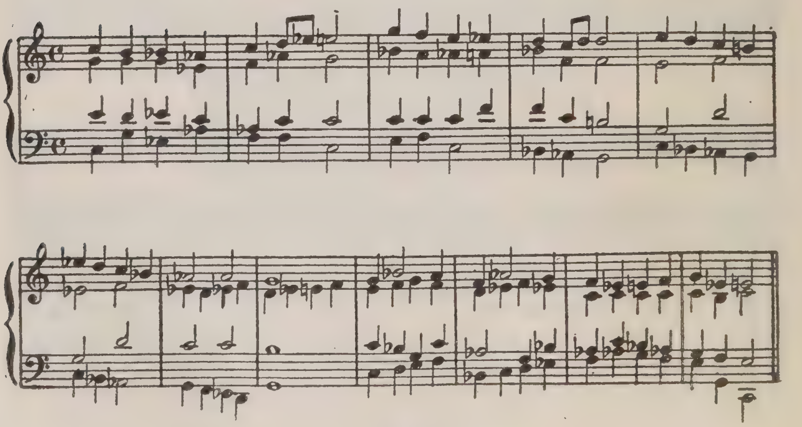
These progressions make use of all the altered tones mentioned. The student must study the voice-leading carefully. Some of the sounds may at first seem strange, but repeated playing will soon convince him of their attractiveness—yes, even beauty.

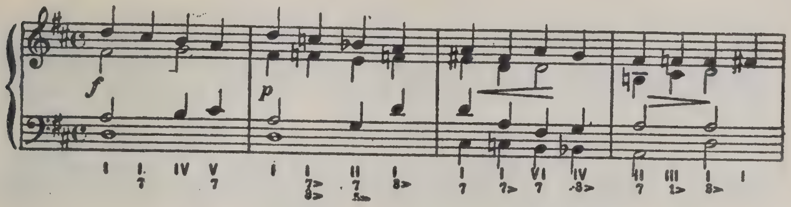
The example marked a contains a well-known harmonic progression. The illustrated chord is C♮-E-G-B♭—$\mathrm{VII}^{7>}_{1>}$. Most composers will write the chord as indicated if the progression into the V_7 takes place, but will substitute A♯ for B♭ where it leads into II^{6}_{4}. There is no reason for this change as long as the key is D major. If the key changed to E minor the A♯ would be justified,

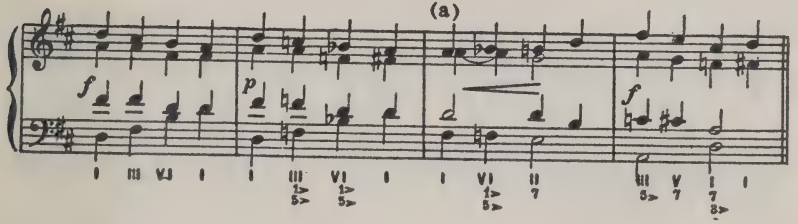


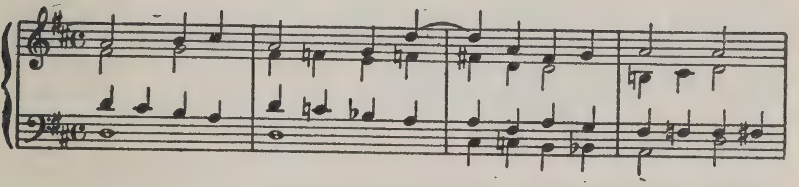
but that presents a problem which will be dealt with later on. The example marked b contains harmonies which Brahms has used so effectively in the slow movement of his E minor Symphony. It will be of interest to the student to analyze the closing passage of Grieg's "To Spring". He will find that all the harmonies are "at home" in F♯ minor but are here, undoubtedly, to be considered as alterations of the F♯ major tonality.

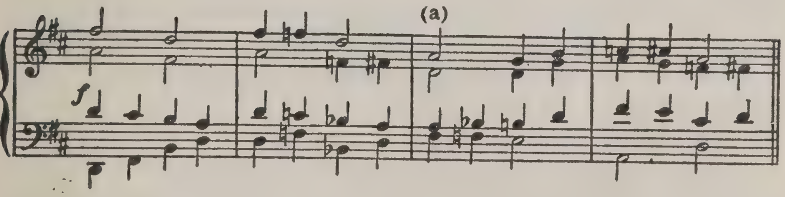


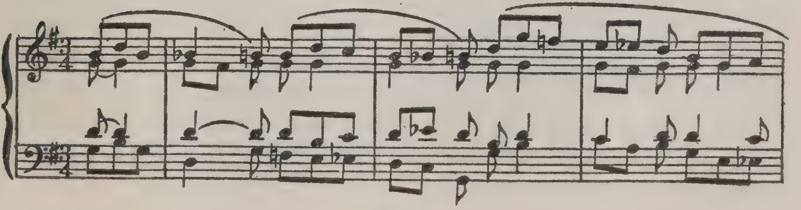


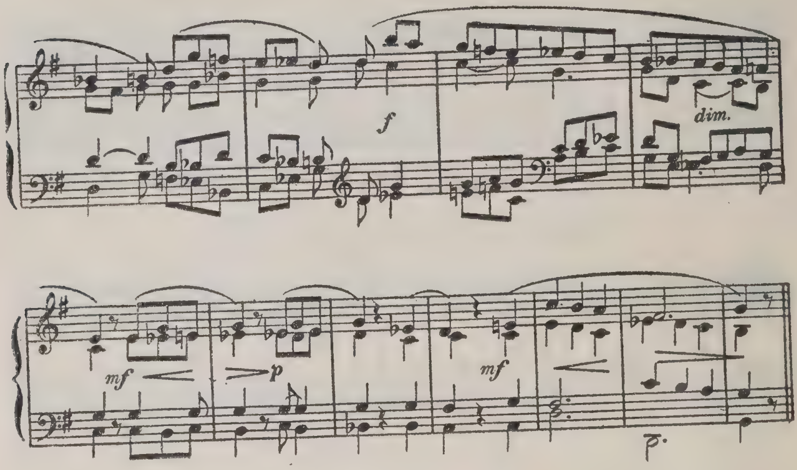

f
p
I I IV V
7 7
I I II I
7> 7 8>
8> 5>
I I VI IV
7 7> 7 8>
II III I I
7 1> 8>


(a)
f
p
f
I III VI I
I III VI I
1> 1>
5> 5>
I VI II
1> 7
5>
II V I I
5> 7 7
8>




(a)
f





A few words of explanation may prove helpful. The four-measure phrase in A♭ major is certainly full of charm! It contains every altered tone mentioned. Notice also the doubling of the F♭ in the 1st measure, but both move according to the suggestions previously made.

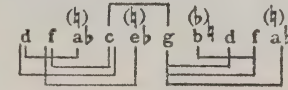
The example in C major draws rather strongly on the C minor tonality. As a matter of fact the latter key is very much in evidence beginning with measure 6, and yet the feeling of C major is not entirely obliterated. Neither is this the case in measures 9 and 10 where, by means of a sequence, the harmonic resources of the keys of F major and E♭ major are strongly drawn upon.

When analyzing the two examples in D major, notice that the tenor part of the second is an exact repetition of the soprano of the first; also that the tenor of the first with the exception at a, becomes the soprano of the second. This is really a demonstration of double counterpoint,—inserted to illustrate the possibilities of different constellations of the intervals comprised in the various harmonies employed. Noteworthy are also the "echo" effects produced by the substitution of the minor harmonies in measures 2 and 6 for the major ones in measures 1 and 5.

If the student understands the foregoing, he will have no difficulty solving the contents of the example in G major. He must, however, remember that it is absolutely necessary to play all examples **well**; he must pay closest attention to phrasing and shading as indicated, and where these have been omitted he must supply them. The teacher should make it a point to hear the student play. It is self-evident that the student's "ear" will develop as he learns to appreciate harmonic color and this will decidedly influence the development of polyphonic piano technique—which is, after all, the foundation of all good piano playing.

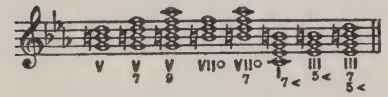
Lesson: Solve the problems of these alterations in additional short examples; also invent longer ones, but remember that the latter will prove satisfactory even if they contain only occasional illustrations of some of the altered harmonies.

Harmonies originating in the major tonality and used in the parallel minor key have almost all been mentioned in previous lessons. They are caused, first of all, by the use of intervals of both the melodic and harmonic forms of the scale for the construction of chords. To these must be added the raised 3d of the scale, which apparently changes the minor to the major mode completely; this result may be avoided by careful leading of the voices and by refraining from the use of definite major cadences. The following diagram will set forth all the chords which become possible by the introduction of the altered tones:



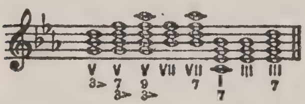
Again I must call attention to the artificial construction of the minor tonality. The altered tones were forced into a "Procrustes' bed". The only one which naturally fitted into it was the raised 7th, which was imperatively demanded by the unavoidable necessity of the major dominant triad. (Be sure to reread the chapter on scales, with particular reference to the formation of the minor scale; you will understand the present work all the better for having done so.)

In order to give a complete view of the harmonic possibilities of the minor key, as far as it relates to the available alterations, I shall enumerate, first, the chords which make use of the raised 7th. These, in the key of C minor, are:



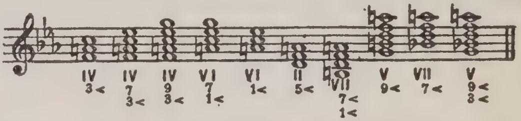
All of these have been analyzed and illustrated in former lessons and it only remains to point out, once more, that the first five chords, being V formations, are indigenous to the key, the others being of accidental origin.

It has always been the custom to regard the natural 7th of the scale as an altered tone. That this is by no means the case, has also been proven previously. Its statement in this lesson is merely reiteration, but I wish to call attention again to the necessity of discrimination in the use of it.

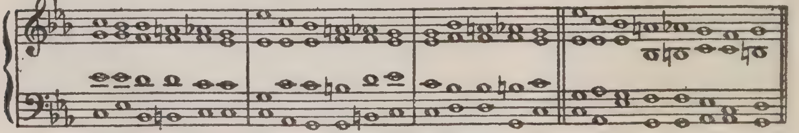


$V^{7}_{3>}$ and $V^{9}_{3>}$ are of little value because they are unnatural dominant formations. All others have distinct harmonic character.

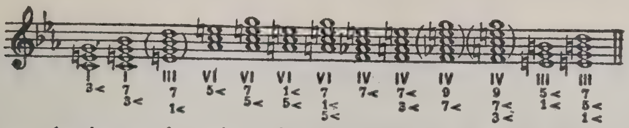
Chords containing the raised 6th of the minor scale are likewise not strangers to the student. He will readily recognize the following combinations in C minor:



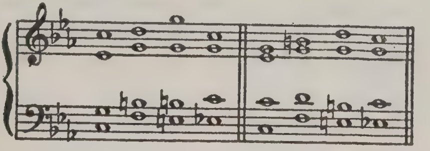
and if he remembers how to deal with the A♮, the raised 6th, he will encounter no new difficulties. The last four chords are practically worthless in C minor, altho not altogether impossible, as for instance:



If the 3d of the minor scale is raised, some new problems arise. The possible combinations in C minor containing the E♮ are as follows:

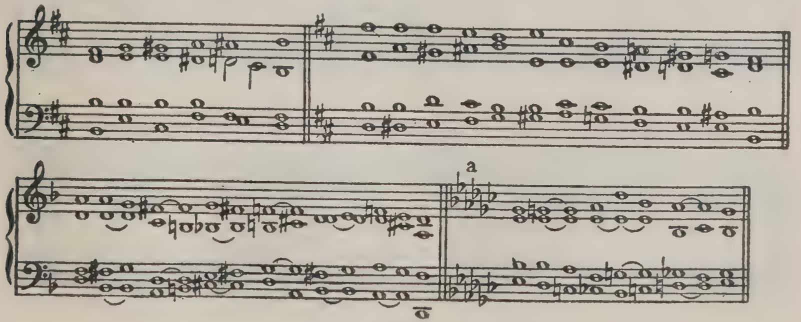


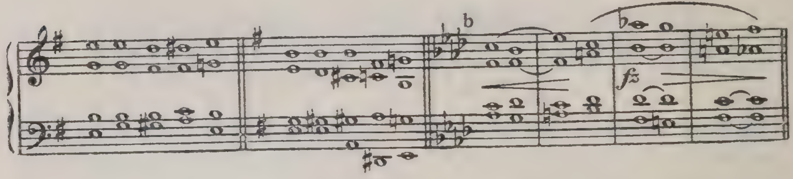
It must be borne in mind that if a minor triad is changed into a major triad the character of the latter becomes strongly that of dominant. Reversely, if a major triad is changed to a minor triad its character is most likely to become that of subdominant. A perusal of the above chords, with the exception of the last two, will quickly reveal the fact that they are all more or less closely related to F minor and F major, which represent the IV keys of C minor and C major. $\text{I}_{3<}$ and $\text{I}^{7}_{3<}$ are bona fide V formations of IV. $\text{III}^{7}_{1<}$ is really VII_7 in F major but may here be used leading into various IV formations or even into V formations (if, for instance, B♭ is led into B♮) but a progression into F minor is hardly advisable, because a D♭ would then be required. The $\text{III}^{5<}_{1<}$ and $\text{III}^{7}_{\substack{5<\\1<}}$ are "delayed resolutions" of V or as, for instance:



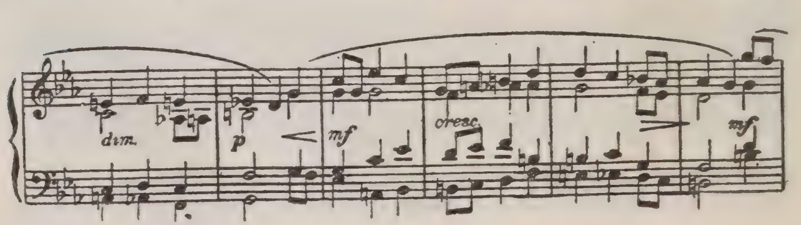
In both examples the V_2 could have gone directly to I_6, but $\text{III}^{5<}_{1<}$ and $\text{III}^{7}_{\substack{5<\\1<}}$ delaying the direct resolution. $\text{IV}^{9}_{7<}$ and $\text{IV}^{9}_{\substack{7<\\3<}}$ have no harmonic value.

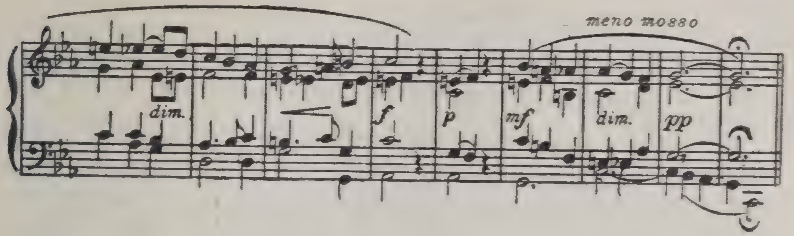
It is worth observing that, as a general rule, the raised 3d of the minor scale is best preceded by the natural 3d, or the 4th, and best succeeded reversely.





A study of these examples reveals that they contain little but that which has been mentioned in previous lessons. The raised 3d, in combination with unaltered as well as altered tones, supplies the new features. It will be easily recognized that the sound of all these combinations is the outcome of good voice-leading. The example at **a** may not appeal at first hearing, on account of the V^6_7, with the melodic tone placed in the tenor instead of in the soprano; nor, perhaps, the one marked **b**, containing in the second measure the combination which we shall have to call $IV^9_{7<}$. The indicated phrasing and dynamics will naturally aid in comprehending its harmonic contents. Besides the voice-leading is unobjectionable; even the cross-relation between the A♮ in alto and A♭ in soprano is inoffensive because the listener's attention is strongly centered on the sound of the chords. Analysis and repeated playing of all these examples will soon familiarize the student with these "new" combinations.





This little piece needs no apology. It sounds well throughout, in spite of the many alterations, and the student will observe that the key of C minor predominates: it is never wholly obliterated, altho measures 5 and 6 lean somewhat toward the key of E♭ major.

Lesson: Illustrate the altered tones of the minor tonality in a few additional short examples, emphasizing particularly the combinations containing the raised 3d of the scale. Also try to introduce any of the permissible alterations in longer examples.

CHAPTER XIII

OTHER ALTERED HARMONIES

THE CHORD OF THE NEAPOLITAN SIXTH

Composers of the Neapolitan School of Composition (which flourished particularly under Domenico and Alessandro Scarlatti, at the beginning of the 18th Century) were credited with the first use of this combination; hence its name. Naples was in those years the Mecca of every aspiring musician and an Italian sojourn was almost demanded before the composer's right to distinction was recognized. (This custom, now several centuries old, is, for instance, embodied in the requirement that the winners of the French and American "Prix de Rome" are obliged, even to-day, to spend the scholarship years in Rome.) Italian music culture permeated the musical life of the civilized world and it is not particularly remarkable that even chords should have been named after the city where music had found a home, and whose influence is still a factor of considerable importance.

It cannot be claimed that the Neapolitans were the "inventors" of this chord, as it is to be found in numerous compositions by contemporaries of the Scarlatti who never saw Italy. Not the least among them was Bach, whose works contain many striking examples. (One of the most beautiful ones to be found anywhere in the literature is the measure in F♭ major in the E♭ minor Prelude of the Well-Tempered Clavichord, 1st volume.) The Neapolitan 6th is most easily remembered as the first inversion of the major triad on the lowered 2d degree of the minor scale.

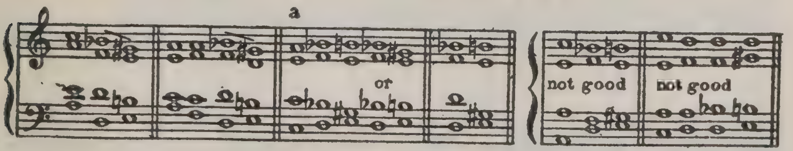
Thus,—

In C minor the chord is the D♭ major triad in 1st inversion.
In G♯ minor the chord is the A major triad in 1st inversion.
In A♭ minor the chord is the B♭♭ major triad in 1st inversion.
In E minor the chord is the F major triad in 1st inversion.

The figure 6 suggests its cadential position. The 3d of the chord is the root of IV, hence it represents a strong subdominant formation. Naming the chord the Neapolitan Sixth proves again that all harmonic feeling started with the emphasizing of the tonality in the cadences of "musical thoughts" and, while the chord is by no means restricted to this first inversion, the name has become generic and, in our work, is to be indicated by N6, no matter whether the 3d, or the root, or even the 5th, is used in the bass. It is of importance that the student realize from the very beginning that the chord is really "at home" in the subdominant key. The D♭ major triad, even tho it is used in C minor, is, first of all, the VI in F minor. This fact explains its tendency to establish the IV key as I—particularly in the major tonality, as will be seen in the next lesson.

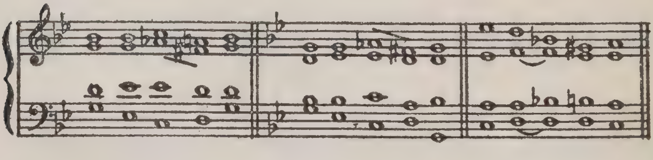
Once it is understood that the chord is a IV formation, it becomes evident that the third is the most natural tone to double, but any of its intervals may be doubled if the voice-leading demands. It further furnishes the clue to the most effective preceding and succeeding harmonies, which have to be I and V formations, respectively, as the following list will show. The best preceding chords for N6 are: I, I_7, VI, VI_7; included further are chords of its own character, IV, IV_7, II, II_7.

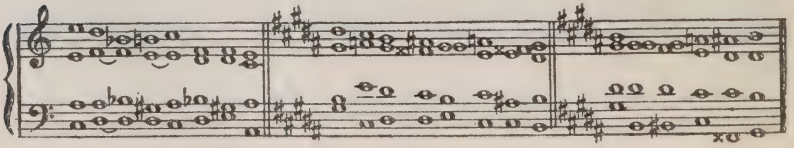
The best succeeding chords are: V, V_7, VII°_{7}, $III_{5<}$, V_9, V^7_6, I^6_4, and again chords of its own character as II_7, VI or IV. One of the most effective succeeding chords is the VII°_{7} of the dominant key. It is really out of place in this lesson but it is included because it is so frequently met with. This chord in the key of C minor is F♯-A♮-C-E♭. Its position depends on that of the preceding N6 and it may be succeeded by V formations or by I, particularly by I^6_4 in the cadence, also by IV or II_7. It will prove of advantage to the student to reread the lessons on II and II_7 in minor, as they furnish suggestions, in regard to the leading of the different intervals, which are applicable to the treatment of the N6. Remember also that the positions of any preceding chord determine the position of the N6 and that the latter influences the position of the succeeding chords. Further: If the V or V_7 in root position follow the N6, it is almost invariably necessary to lead the altered tone into the 3d of the V or V_7 in order to avoid aug. 2ds.

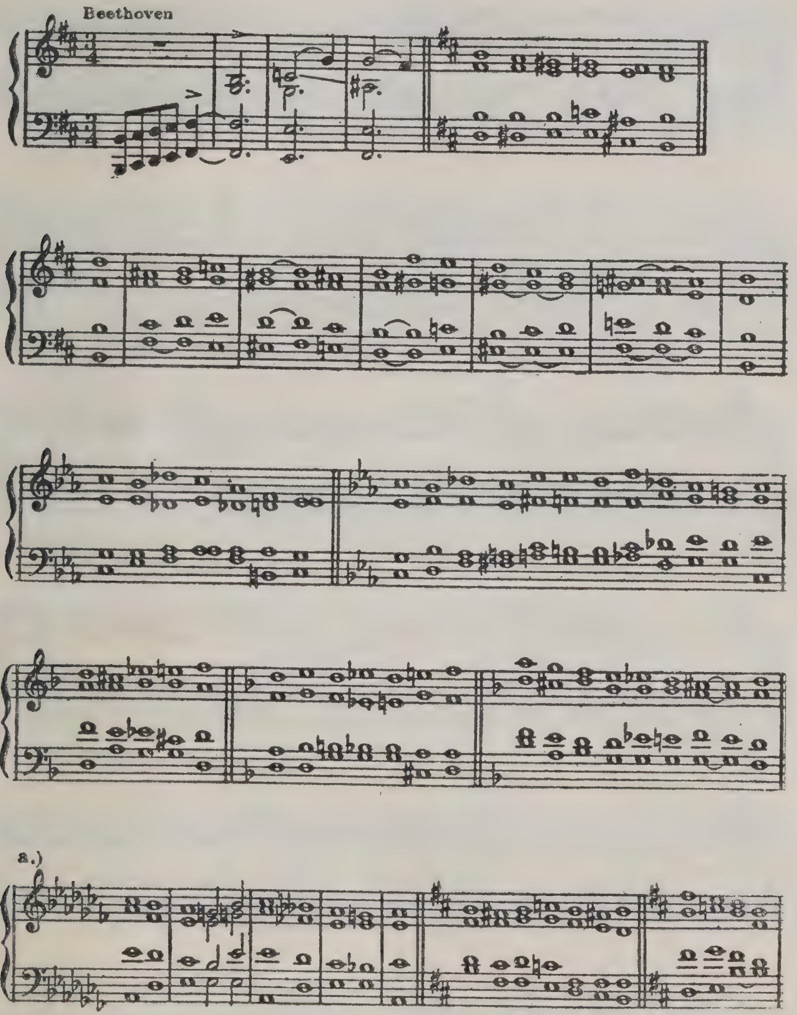


In the first two examples observe the leading of the B♭ to G♯; this is good leading in spite of the cross-relation of the soprano and tenor, which has been condoned ever since the N6 was first used, for the reason that a B♭ major triad (here the N6 followed by an E major triad (here the V) represents about the most distant relationship imaginable between harmonies, the strangeness of the sound-effect obliterating that of the cross-relation. In example **a** the altered tone B♭ is doubled and, naturally, only one of the two can move to G♯. The next example shows an exception, the tenor leading from D to G♯. The other two are, of course, not good and such voice-progression is inexcusable. If the succeeding V or V_7 is not used in root position, the above leading becomes unnecessary—in fact, often impossible, as the student will discover when writing his own examples. When II_7 is used preceding, as well as succeeding, it is best to double the root of N6. Neither the preceding nor the succeeding harmonies are restricted to those mentioned above; they only represent the most natural progressions. Skillful voice-leading will permit the introduction of N6 by these additional chords: $I_{3<}$, $I^7_{3<}$, VII, III, $IV_{3<}$, $IV^7_{3<}$, $VI^7_{1<}$; and even V or V_7 may occasionally be used. Additional succeeding chords are III and I, the latter either in root position or 1st inversion (I speak of these positions because the I^6_4 has already been mentioned, but it must not be forgotten that I^6_4 is first of all a suspension of the dominant; hence practically a V formation), also $IV_{3<}$, $IV^7_{3<}$, $VI^7_{1<}$, VII and VII_7.

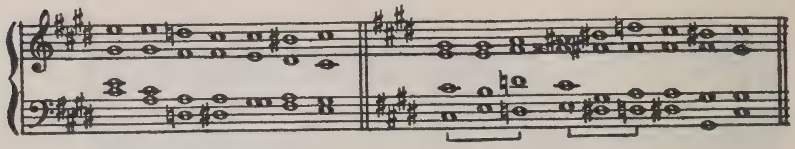
The following examples show the use of the real N6, i. e., the chord in 1st inversion.

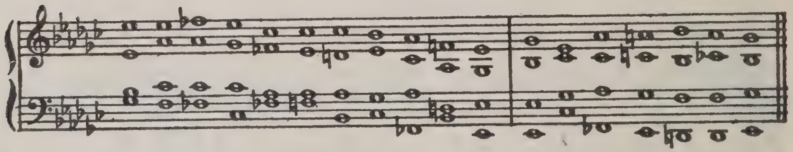


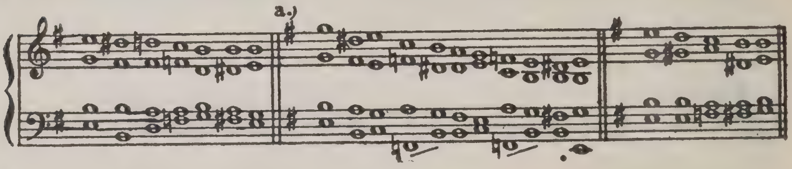


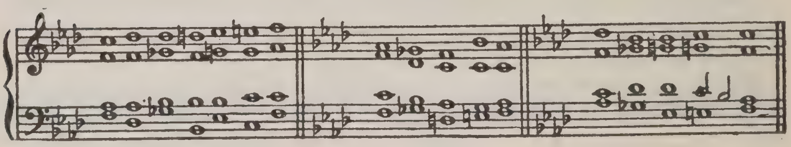


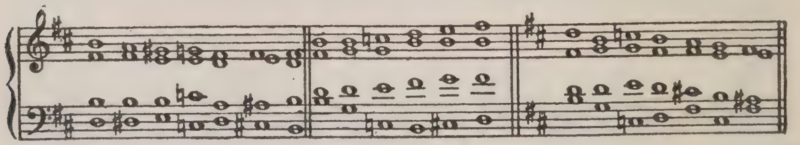
These examples illustrate all the suggestions made above; the student can verify this by careful analysis. A reiterated cadence at a shows how the N6 may intensify the harmonic color.





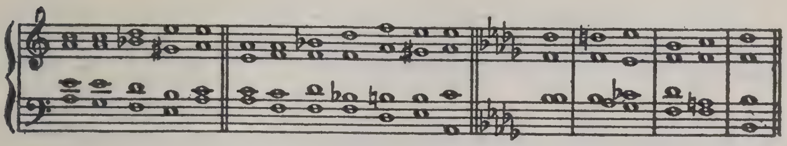


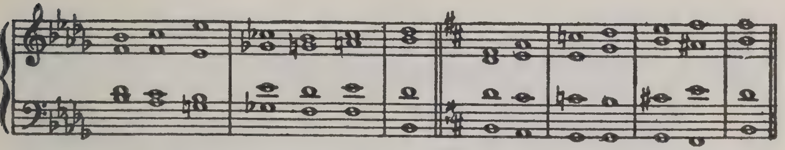


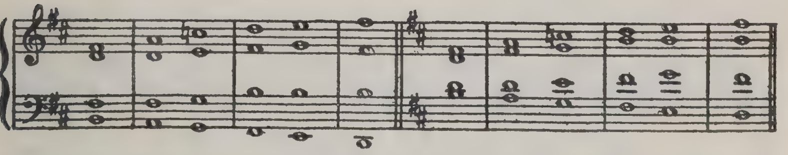


That the root position of N6 is capable of producing some beautiful harmonic effects will readily be admitted after playing the above examples. Even the awkward bass step in example a has been sanctioned by usage.

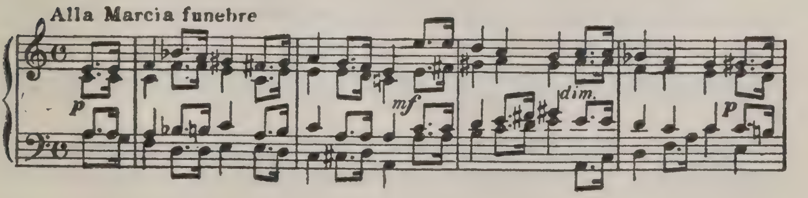
The $^6_4$ position of N6 is of little value, altho it is occasionally met with, and for that reason a few examples are appended.

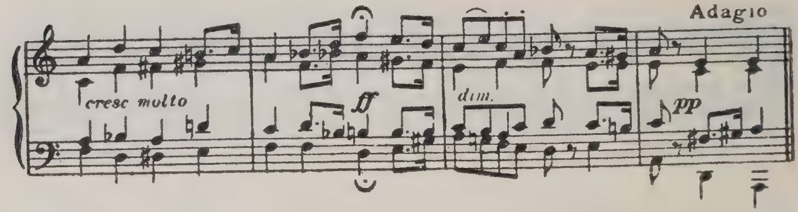


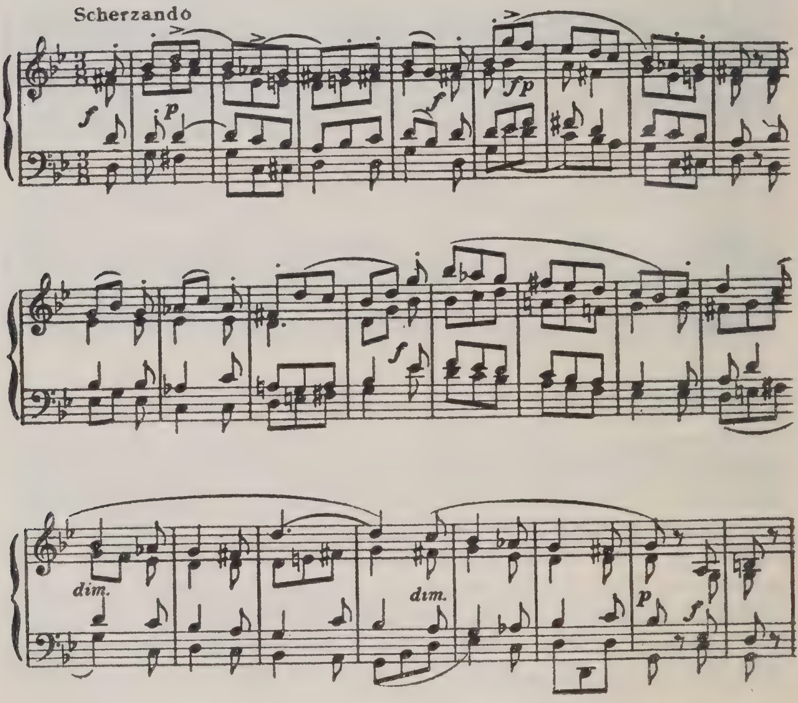




In most of these examples I have indicated the possible rhythm by means of bars, as the $^6_4$ positions have to be used carefully. The last two are rather freakish as three $^6_4$ positions (of various triads) follow one another. Here, as well as in the other examples, notice the perfect diatonic bass leading. The second one furnishes an exception inasmuch as the N$^6_4$ is created by holding over of the bass tone from the preceding VI, and in its being left by skip. This skip is of no moment, the succeeding harmony being II$_7$, a chord of the same derivation as the N6.




Adagio
cresc molto
ff
dim.
pp


Scherzando
f
p
fp
f
dim.
dim.
p
f

Both, the Alla Marcia Funebre and the Scherzando, are little miniatures and have within them sufficient material for development into "full-fledged" compositions. As they are, they contain a number of N6 chords, used in the most natural way, that is, with the 3d in the bass.

Lesson: Study the examples given. When writing the short illustrations, use principally the **best** preceding and succeeding harmonies. Then, after you have learned to appreciate the most natural progressions, experiment with some of the other harmonies mentioned. Also write a number of longer exercises. Good illustrations of N6 are contained in Beethoven's Op. 27, No. 2, 2d movement of Op. 26, Chopin's C minor Prelude, G minor Ballade, etc., etc.

THE NEAPOLITAN SIX-FIVE CHORD

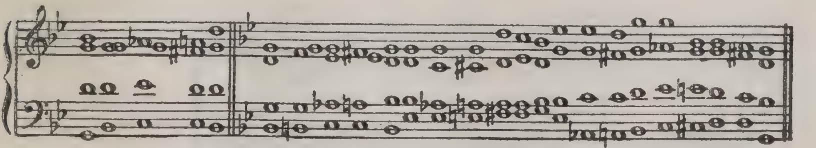
If the root of the II triad in minor may be lowered, so may the root of the II_7 be altered. This chord in the key of A minor is B♭-D-F-A and as its cadential position is with the D, its 3d, in the bass, I have called it the N^6_5. I am not certain that the chord is mentioned as such in any text-book, but its existence, as well as the name, is quite logical, as I shall prove presently. The chord is not nearly so frequently met as the N6, due perhaps to its strongly discordant sound and, perhaps, also because its alteration permits of various ambiguous conceptions. A comparison will show that it is identical with VI_7 in minor, I_7 in major and IV_7 in major. Nevertheless it has a distinct place as an altered II_7 in the minor tonality and, while the $^6_5$ inversion is the most natural position, it may be used in any position with equal effectiveness.

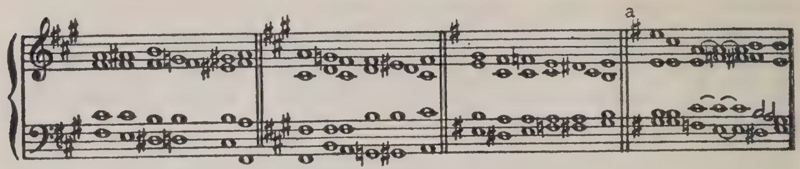
The best preceding chords are: VI, VI_7, I, I_7, IV, IV_7, II_7.

The best succeeding chords are: V_7, VII°_7, V.

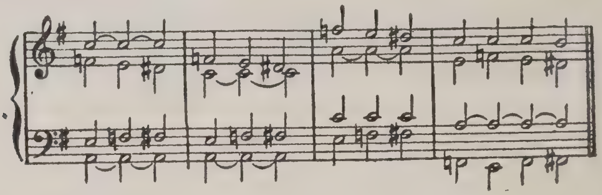
The reason why the succeeding chords are limited is to be found in the fact that both the altered tone and the 7th demand certain leadings; the altered tone usually ascends chromatically and the 7th descends a half step. Succeeding chords also frequently used are the V_7 of the V key (which in the key of A minor is B-D♯-F♯-A) and the VII°_7 of V mentioned before. Even the I is occasionally found as a succeeding chord, in which case it is best to keep the altered root above the 7th. Other possible preceding chords are $VI_{5<}$, $IV_{3<}$, $I_{3<}$, $I^7_{3<}$, $IV^7_{3<}$, $VI^7_{5<}$, VII°_7.

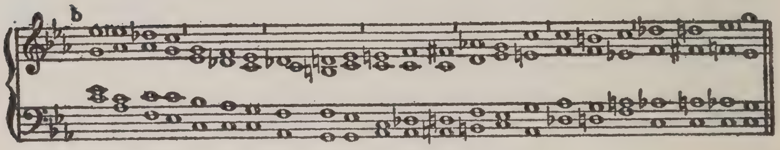
No succeeding harmonies of importance can, at present, be added and a few examples will suffice for illustrations.



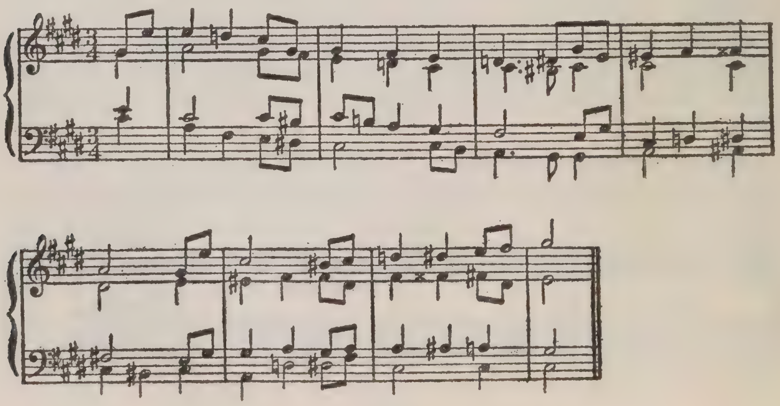


The example in E minor marked **a** illustrates the progressions of N$^{6}_{5}$ in root position into its last inversion—alto and bass exchanging their intervals. This is rather strong voice-leading and, of course, any two voices may thus be used interchangeably as, for instance,





The illustration at **b** sounds most convincing if thought in triple time as indicated.



The observing student will readily detect that the little piece in C♯ minor is based on the harmonic progressions contained in the last mentioned example.

Lesson: Analyze all the examples furnished and add a number of your own. Also search for N^{6}_{5} chords in the compositions you play. The frequency with which this harmony is used by all composers may surprise you. The most wonderful use of the N^{6}_{5} is made in the soul-stirring climax in the second part of the first movement of the Eroica Symphony. Do not fail to become intimately acquainted with these measures. They will bring to you an even profounder realization of Beethoven's exalted genius!

THE NEAPOLITAN SIX AND SIX-FIVE CHORDS IN THE MAJOR TONALITY

The fact that these chords represent strong IV formations in the minor tonality makes them immediately available in the major key; all the more so when the following conditions are fully understood.

The major I, as mentioned before, stands in relation of V to the IV triads, whether these be major or minor. This V relationship is even more pronounced where the minor IV is concerned, because the minor triad is more definite in sound. Every major triad, as we know, contains the principal elements of the overtone series, hence its character is always distinctly V. A minor triad can never be considered really V, even if it is used as tho it possessed V qualities; hence its greater definiteness as a possible tonic. The V character of the major I is still further emphasized when the N6 formations are introduced. It is indisputably true that the musically sensitive ear grasps the juxtaposition of—for instance—the triads C major (I) and D♭ major (N6) only thru the F minor key, wherein C major is V and D♭ major VI. These facts, then, account for the loss of the distinctiveness of the major I when the N6 formations are incorporated into the resources of the major tonality. But this "vagueness" may be a desired effect, giving greater meaning to a message the composer wishes to convey. One of the most striking examples of this kind the student will find in the closing measures of Beethoven's "Funeral March", the second movement of his Sonata, Op. 26. These measures turn from the key of A♭ minor into A♭ major. There is no doubt that the latter key produces the effect of V to D♭ minor; and all the more so as the B♭♭ is frequently introduced as minor 9th in the chord A♭-C-E♭-G♭-B♭♭ or as a B♭♭ major triad over the pedal tone A♭. No sensitive musical ear can conceive this B♭♭ major triad as a true N6 formation; it simply produces the effect of a VI in D♭ minor and the concluding A♭ major triad sounds strongly V. It is not only possible, but even probable, that Beethoven consciously or subconsciously (subconscious realization of effect is the prerogative of genius!) wanted to convey the feeling that death is not final, and these last measures breathe the hope—nay! the necessity—of life beyond.

Other examples, perhaps less significant but nevertheless strikingly effective, will soon be recognized by the observing student. Brahms' compositions afford splendid material for analysis.

To resume—the N6 chord in major is simply transferred from the minor tonality. In order to avoid any possible misunderstanding, I reiterate: the 1st inversion of the D♭ major chord serves as N6 in C major as well as in C minor. The introductory remarks to the previous lessons must be reread because they have a bearing on its use in the major tonality.

The chord is most easily introduced by harmonies borrowed from the parallel minor, but many major formations lend themselves for this purpose with equal effectiveness.

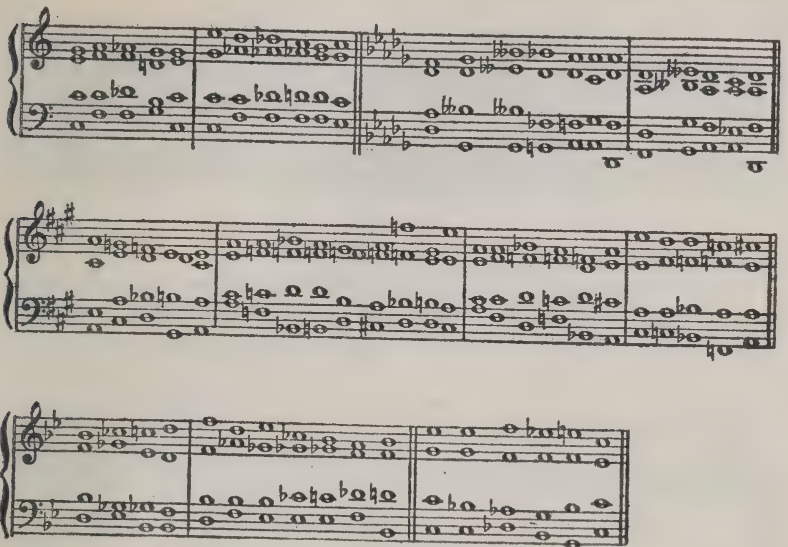
The following list of the preceding and succeeding chords provides an abundance of material.

Preceding chords for the N6 in major are: $\mathrm{VI}^{1>}_{5>}$, $\mathrm{VI}^{7}_{\substack{1>\\5>}}$, $\mathrm{VI}_{1>}$, $\mathrm{VI}^{7}_{1>}$, $\mathrm{IV}_{3>}$, ($\mathrm{IV}^{7}_{3>}$,) $\mathrm{IV}^{7>}_{3>}$, $\mathrm{IV}_{7>}$, (II,) $\mathrm{II}_{5>}$, (II_{7},) $\mathrm{II}^{7}_{5>}$, I, $\mathrm{I}_{3>}$, $\mathrm{I}_{7>}$, (VI, $\mathrm{I}^{7>}_{3>}$,) $\mathrm{III}^{1>}_{5>}$, $\mathrm{VII}_{1>}$.

Those in parenthesis are of little value.

The succeeding chords are again rather limited. Do not fail to reread the suggestions in the previous lesson concerning voice progressions.

Succeeding chords are: V, V_{7}, VII°_{7}, V^{6}_{7}, $\mathrm{V}^{6>}_{7}$, (III,) $\mathrm{III}_{1>}$ used as V, I, I^{6}_{4}—particularly in the cadence,—VII°_{7} of the V key, $\mathrm{II}^{7}_{5>}$, $\mathrm{VI}_{1>}$, $\mathrm{VI}^{1>}_{5>}$, ($\mathrm{III}^{1>}_{5>}$, $\mathrm{VII}_{1>}$).



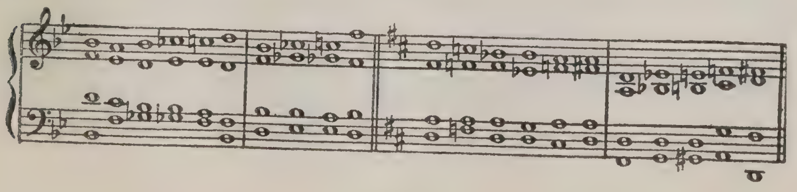
Many of these examples prove what was said about "vagueness" of tonality.

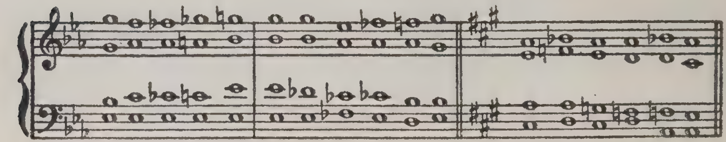
THE NEAPOLITAN SIX-FIVE IN MAJOR

Again the student must realize that the chord in C major is D♭-F-A♭-C, the same as in C minor. It is advisable to make restricted use of this harmony, as it is, after all, the VI_7 of (in this case) F minor. Even as VI_7 its use is limited and all the more when introduced in the major tonality as N^6_5. All positions are possible.

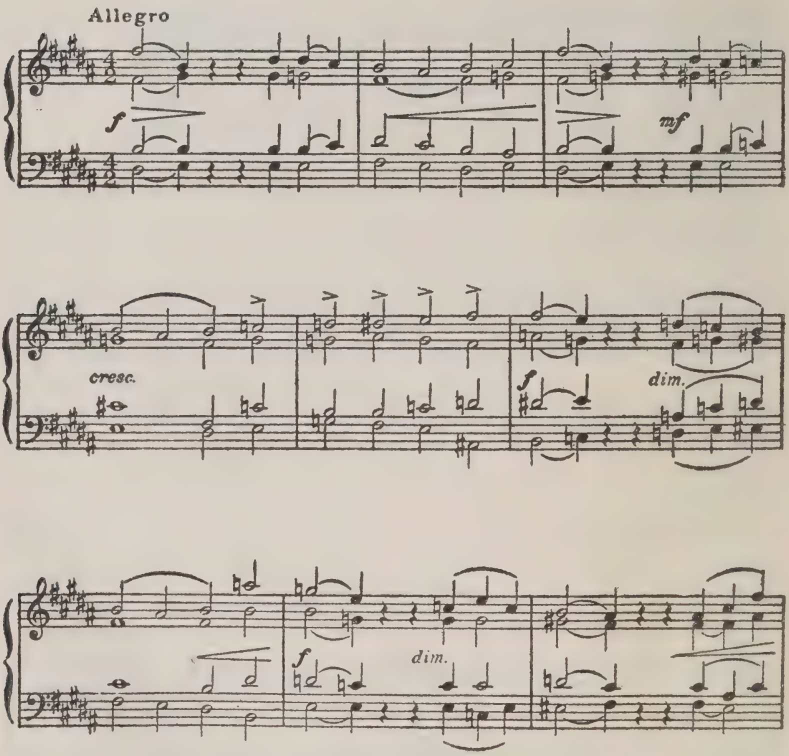
The best preceding chords are: $VI^{1>}_{5>}$, $VI^{7}_{\substack{1>\\5>}}$, $VI_{1>}$, I, $I_{7>}$, $I_{3>}$, $I^{7>}_{3>}$, (II, II_7,) $II^7_{5>}$.

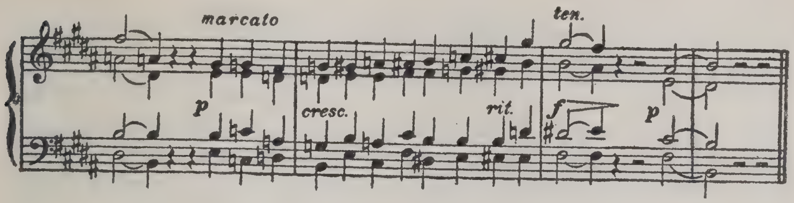
Some of the more effective succeeding chords are: V_7, VII°_7, V_7 of V, VII°_7 of V, sometimes I, possibly $I_{7>}$, $III_{1>}$ used in place of V.





No explanations of the foregoing examples are necessary. The study of the leading of the voices is of greatest importance.


Allegro
f
mf
cresc.
f
dim.
f
dim.



In order to make this example convincing it must be played with closest observance of the dynamics indicated. It contains only one N$^6_5$, but the N6 is very frequently introduced and the uncertainty of the tonality is, of course, the result of premeditation.

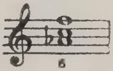
Lesson: Illustrate N6 and N$^6_5$ chords in the major tonality.

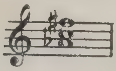
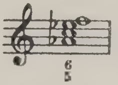
CHAPTER XIV

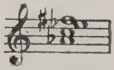
CHORDS CONTAINING AUGMENTED SIXTHS

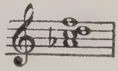
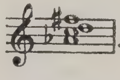
These chords, familiarly known as augmented sixth formations, are in reality V formations with lowered 5th, the term augmented sixths being now merely a relic with little historic value. (Tracing existing conditions back to the inception of the basic idea inevitably leads to a better comprehension of that which confronts us today. The apparent incongruity of some musical nomenclature is thus accounted for. For instance, our great instrument, the Piano, has salvaged its name from the fact that its ancestors, which could be played "forte e piano", were soon called "Pianoforte" and now merely Piano. The Violin to-day, perhaps of all instruments the most distinctive type, not having been altered in its form for over 300 years, is really a diminutive of the Viol—Violino; its E string, altho the 4th string, is known in Europe, even today, as the Quint, because on certain types of Viols it was the 5th string. Then again, the word chord—corda, cord, meaning originally a string—and so on almost "ad infinitum".)

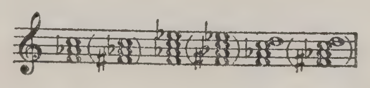
The chords which we are about to consider furnish another striking example of the comparative insignificance of a name. Their first use was certainly circumscribed, as testified by the names under which they are still catalogued: chord of the augmented 6th, of the augmented $\substack{6\\5}$ and of the augmented $\substack{6\\4\\3}$. The figures indicate a first inversion of a triad and the first and second inversions of some chord containing a 7th. If, as I have frequently pointed out, harmonic consciousness started in the cadences, then we find here additional proof of that fact, inasmuch as these figures indicate those positions of the harmonies which were exclusively used in the cadences. Only within the last century has their scope broadened sufficiently to permit the use of all positions, with certain reservations with which I shall deal later on. In other words, their cadential importance has been superseded by their induction into the color schemes of musical thought, making the distribution of the intervals of which they are composed subject to the melodic leading of the voices. If, in spite of this obvious fact, the above mentioned "names" are still adhered to, it is done out of deference to their historic origin,—as in the case of the Neapolitan chords. (Some theorists have provided names of nationalities for these combinations: i. e., the French, German and Italian 6th chords; but as these names are without significance,—either historically or characteristically—they can well be dispensed with.)

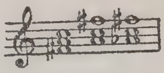
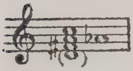
The chords themselves originate in the minor tonality and are explained by the older theorists as being based on the 6th degree of the minor scale. If a 6th chord is formed on A♭ in C minor, the resulting combination is 

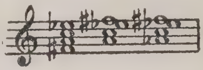
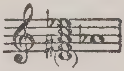
then by raising F to F♯ the chord is called the augmented 6th harmony  indicated thus: $\not{6}$. If a $^6_5$ chord on A♭ is called for the result is 

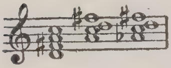
; again, F is raised to F♯, resulting in an aug. $^6_5$, or $^{\not{6}}_5$. 

A $^6_{\substack{4\\3}}$ chord on A♭  becomes an aug. $^6_{\substack{4\\3}}$, figured $^{\not{6}}_{\substack{4\\3}}$, by again raising the F to F♯ . A closer analysis proves that the altered tone is really the root of IV, even the last one, altho a II_7 is nothing but a IV formation (see chapter on II_7).



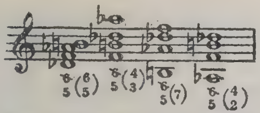
It stands to reason that the roots of primary chords such as I, V and IV cannot possibly be altered without creating entirely new conditions. No one can claim that a I with raised root remains the I, nor a V with raised root the V, and neither does a IV with raised root remain the IV. It is much more logical to regard F♯ as a leading-tone and, proceeding from this supposition, we discover that all these combinations are V formations with lowered 5th. Let us apply this logic to the aforementioned chords and the result will be this:—The augmented 6th chord is the 1st inversion of the triad on a leading-tone, with lowered bass tone:  The ideal root of this chord is D,  therefore the altered tone is really the 5th and not the 3d.

The aug. $^{6}_{5}$ chord is the 1st inversion of the VII°_{7} harmony with lowered bass tone:  Again the ideal root is D  and A♭ the lowered 5th.

The aug. $\begin{smallmatrix}6\\4\\3\end{smallmatrix}$ is the 2d inversion of a V_7 with lowered bass tone:  This combination proves conclusively that A♭ is the lowered 5th.

The student may rightfully ask what these combinations have to do with the key of C minor, to which the answer is: **These chords are, first of all, altered dominant formations of the dominant key in the minor tonality,** which can be verified by various tests. First of all, wherever these chords are met with, the unaltered tone may be substituted for the altered one (in the above chords A♮ for A♭), the sound-effect remaining practically the same. Further: if resolution into G major takes place, the ear will not accept this harmony as I but as V and even if it is forced to accept it as I, which seldom happens, its title to its tonic estate remains "cloudy", the A♭, as a lowered 2d degree of the scale, preventing its complete acceptance. Only where the resolution takes place into a minor I (the minor triad being unable to represent the complete V feeling) does it establish a certain amount of satisfactory finality.

The time will come when the names of these chords will be relegated to oblivion and then they will be considered as that which they really are: V formations with lowered 5th. I shall retain the names by which they have been known for so long out of reverence for their historic significance, but they represent an entity and the figures lose their meaning in all cases except where the altered tone actually occurs in the bass. All the following positions are aug. $^{6}_{5}$ formations, regardless of the bass tones.



The figures in parenthesis indicate the actual positions, but the student by this time is surely familiar with the construction of all harmonies, and the adoption of the generic names of "augmented six", "augmented six-five" and "augmented six-four-three" will not confuse him. To become familiar with the formation of these chords, the student should construct them on any given tone, remembering that this tone represents the 6th degree of a minor scale, and also that the aug. 6th is actually the leading-tone of the V key.

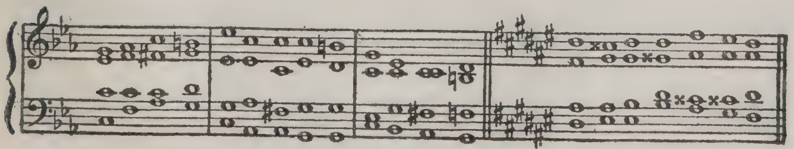
To understand the harmonic and melodic possibilities of these harmonies as completely as possible they will have to be treated in detail.

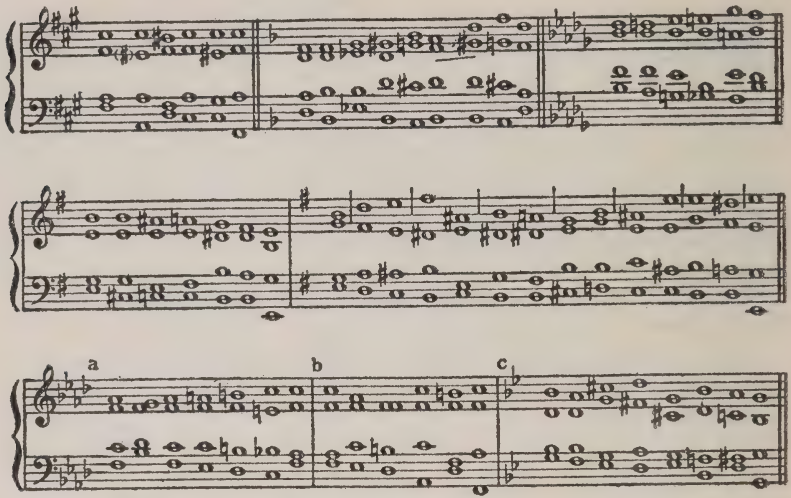
THE CHORD OF THE AUGMENTED SIXTH OF THE V KEY IN MINOR

This being the altered 1st inversion of a **diminished** triad, founded on the leading-tone of the V key, it can only be used with the altered tone in the bass. In C minor the chord is formed on F♯, the other intervals being A♮ and C; its first inversion is A♮-C-F♯, and as A has to be lowered the sound is represented by the tones A♭-C-F♯. The bass tone is always A♭; the best tone to double is C, although A♭ may occasionally be doubled.

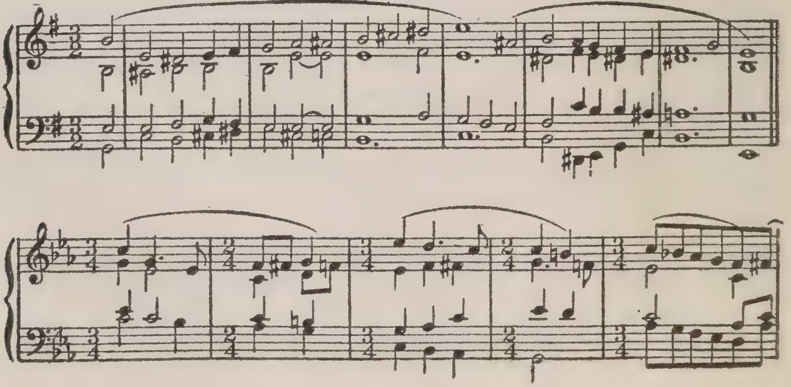
The preceding chords are practically limitless, with this restriction: the leading of the voices must take into consideration that the altered tone must come in the bass. The preceding chords include: I, I_7, $I^7_{3<}$ (only in last inversion, for obvious reasons!), III, $III_{5<}$, VI, VI_7, IV, (IV_7, $IV^7_{3<}$,) II_7, N6, $IV_{3<}$ (best of course in 1st inversion), sometimes V, V_7, VII°_7, VII, VII_7, III_7, $II^7_{5<}$.

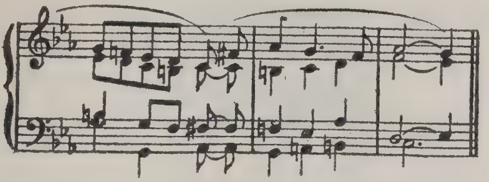
The succeeding chords are limited to V, V_7, $III_{(5<)}$, V^6_7, V_9, I^6_4, VII°_7, (I_6, I, II_7, III).





The example marked **a** shows a doubled leading-tone in the fifth chord, made possible by good voice-leading. At **b** resolution of the $^{6}_{4}$ chord takes place into I_6 and also into I in root position, rather rare progressions. The resolution of the $^{6}_{4}$ chord into III with natural 5th, in example **c**, produces almost the effect of a plagal ending in the relative major key, obviated only by the immediate progression into V of G minor. If the key were really B♭ major, the chord would be more correctly written with D♭ instead of C♯. (See chapter on minor formations in major keys.)





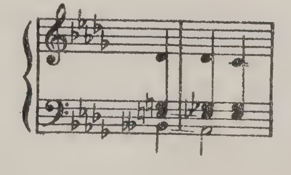
Ex. 1. These little thoughts are rather free in construction but if the indicated phrasing is observed there should be no room for misunderstanding.

Lesson: Illustrate the $\frac{6}{5}$ chord, according to the explanations furnished. Analyze all the examples.

THE AUGMENTED SIX-FIVE CHORD OF THE V KEY IN MINOR

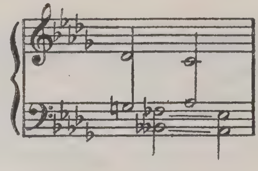
This is perhaps the most important of the chords belonging to this group. Its sound is that of a complete V_7 harmony and it has furnished every composer with an ever interesting means of modulation. The chord in C minor is A♭-C-E♭-F♯—the $VII^{0}_{\substack{6\\5}}$ of the V key with lowered bass tone. It is not only available in its $\frac{6}{5}$ inversion, but every position is of equal value. If resolution takes place into the V, it is necessary to keep A♭ above E♭, as otherwise parallel 5ths will result; this practically excludes the $\frac{6}{4}$ inversion from going into the V.

There are many examples wherein composers have deliberately written those 5ths.



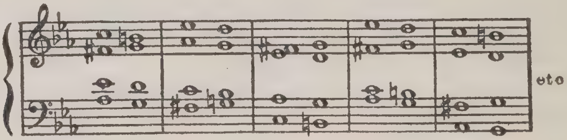
The quoted chords are to be found in the theme of the second movement of Beethoven's Sonata, Op. 57. Here the 5ths are disguised by writing the F♭ as E♮, and also by "sugar-coating" the progression by the use of the 7th of the V—the G♮ resolving to G♭—and further by the suspension in the soprano, all of which distract the hearer's attention from the sound of the 5ths.

The unembellished progression is this:



Many examples can be found which are the result of "phonetic spelling" of these chords, as I shall mention more in detail when these harmonies are introduced into the major tonality—but, in the instance mentioned above, there was really no good reason for Beethoven's writing E♮ instead of F♭ and the use of A♮ instead of B♭♭ in the same combination, which occurs in every one of the variations, becomes, to the student trying to analyze the harmonic structure, even more puzzling. The incorrect notation on the part of the composer can only be laid to the desire to simplify the reading, plus a certain amount of carelessness; but the musician who "knows" will sum up the possible excuses in one word: Beethoven! (See chapter on intervals.)

The student should not write the following resolutions until he has shown that he also can lay claim to the title "a musician who knows".

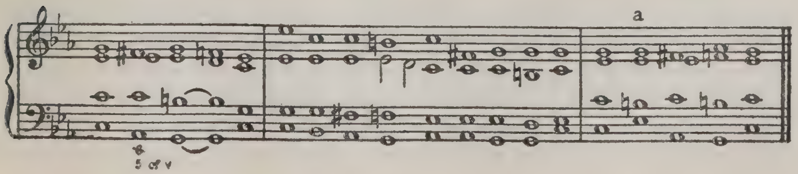


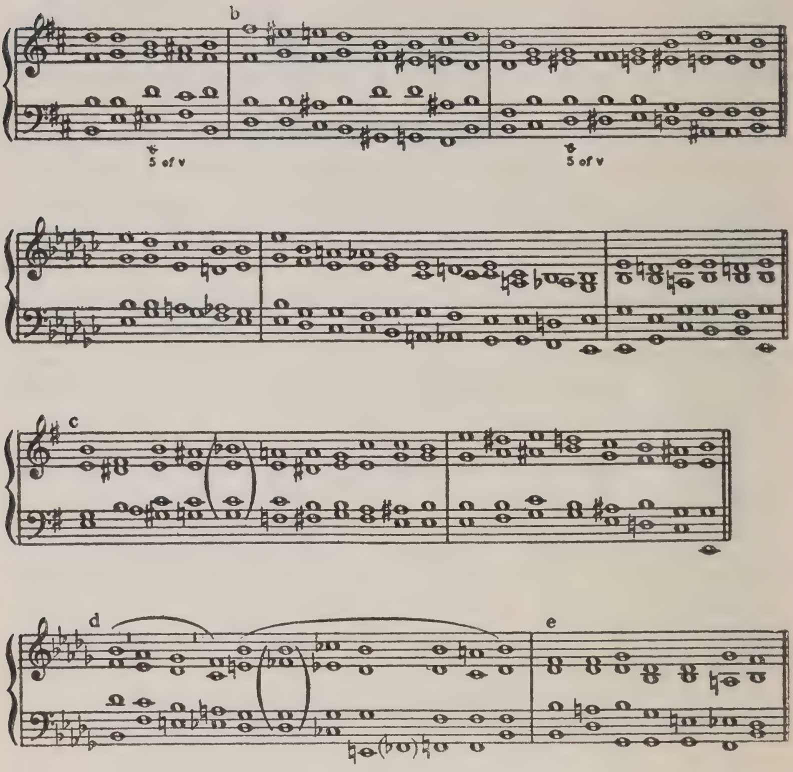
The preceding chords embrace practically every harmony mentioned so far and it would prove difficult even to classify them according to effectiveness, as this would depend entirely on logic of voice-leading and effect desired. As a guide to the student, he must remember that the chords are altered V formations and are, therefore, best preceded by their IV formations. To cite a concrete example: The aug. 6th formations of V in C minor are derived from chords based on the ideal root D. Dominant chords based on D belong to the key of G (even tho G is not I but V) and their IV formations are therefore based on C. The logical preceding chords are then: I, I_7, ($I_{3<}$, $I^7_{3<}$, $I_{7<}$) and the following chords which partake of the I character: VI, VI_7, $VI^7_{1<}$, ($VI_{5<}$, $VI^7_{5<}$) III, $III_{5<}$, III_7, $III^7_{5<}$. The fact that the aug. 6th formations take the place of the IV element in the cadence, is of course, indisputable; hence they may be preceded by harmonies of similar character, which accounts for the following preceding chords: IV, IV_7, $IV_{3<}$, $IV^7_{3<}$, (II, $II_{5<}$,) II_7, $II^7_{5<}$, N6, (N^6_5). The least effective are, of course, the V formations but, inasmuch as the progression from V to aug. 6th formations constitutes really a progression from I to V, these become available as well: V, V_7, V^6_7, V_9, VII°_7, $V_{3>}$, $V^7_{3>}$, (VII, VII_7).

The succeeding chords are perhaps more limited because the only logical ones are the V formations including V, V_7, V^6_7, $III_{5<}$ (used in place of V), VII°_7, V_9. (The V_9 is impractical unless the E♭ in A♭-C-E♭-F♯ is led upward into F♮, an awkward progression to say the least).

If the chords, as mentioned previously, function like the IV idea, there is no reason why the I should not be used as a succeeding chord; and this also accounts for progression into III and III_7 with natural 5th and, further, some chords with IV character may also be utilized. These are, perhaps, the least logical progressions because the aug. 6th formations represent the IV idea in its highest potentiality and any progression into chords with a lesser one might be considered as a weakening of this idea. Nevertheless, some examples should be written with these succeeding chords: II_7, $II^7_{5<}$, IV_7, $IV^7_{3<}$.

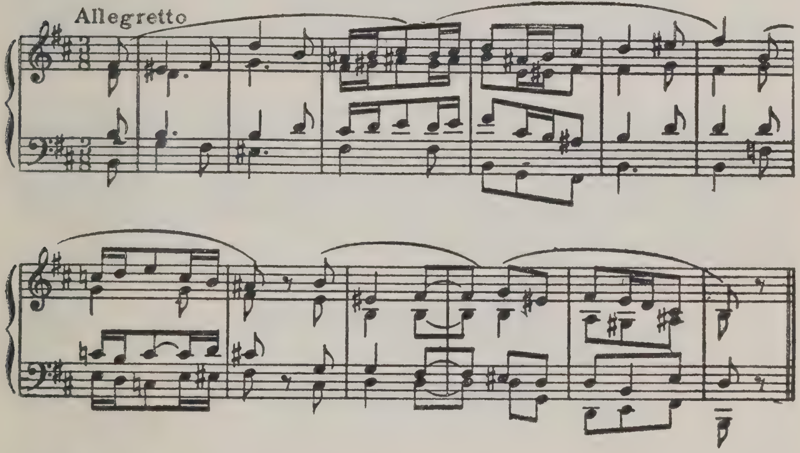
Very good succeeding chords are: N6 and N^6_5. The reason for this is found in the fact that the aug. $^6_5$ stands in relation of a real V_7 to these chords; but if this progression takes place, the interval of the aug. 6 must be enharmonically changed to a minor 7th, or in other words the chord A-C-E♭-F♯ must then be written A♭-C-E♭-G♭. (On the other hand any V_7 may be changed into an $^6_5$ harmony. This possibility will be dealt with in the chapter on modulation.)

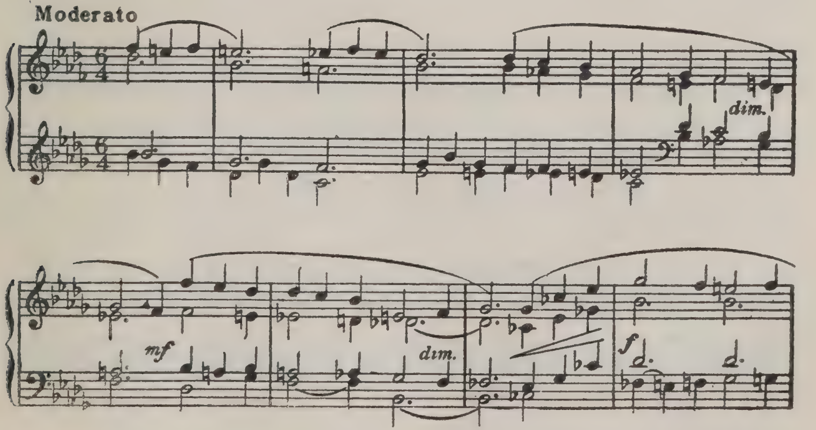


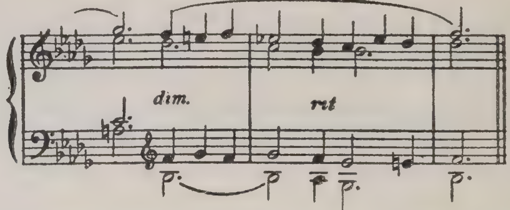


At **a** the voice-leading from $^{\not 6}_{5}$ to V_9 is somewhat clumsy caused by the unavoidable progression in the alto of E♭ to F♮. The example at **e** is better, but even here the fact that the D♭ in the $\not 6$ is really a 7th had to be disregarded by skipping into the 9th of V. An irregular leading of the 7th into the 3d of V_7 is shown in Ex. **b**; this enables the actual $^{\not 6}_{5}$ inversion to resolve into V_7 without causing 5ths. The enharmonic change of $^{\not 6}_{5}$ into V_7 of the N6 is shown in examples **c** and **d**, the latter also contains a progression from $V^7_{3>}$ into $^{\not 6}_{5}$. The almost impossible intervals, as for instance, in **d** where the bass moves from C♭ to E♮, becomes plausible if the E♮ is first thought of as an F♭. Diminished 3ds, which may occur quite readily in these examples, are, of course, the inverted aug. 6ths and never objectionable.

The appended longer examples also contain voice-leading which might be awkward if given to real voices, but in instrumental music there is no such difficulty. Investigate carefully the leading of every individual part; take phrasing, repetition of harmonies, etc., into consideration—then everything becomes comprehensible.



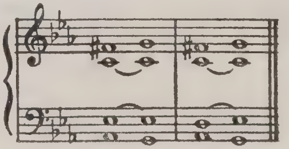




Lesson: Inasmuch as the $^{6}_{5}$ chord is of such great importance, the student should furnish a great many additional examples, both short and extended ones. The teacher might find it advisable to give the student some soprano parts, outlining the principal harmonies to be used.

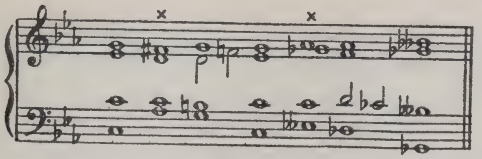
THE AUGMENTED SIX-FOUR-THREE CHORD OF THE V KEY IN MINOR

This harmony, while perhaps not so frequently met with as the $^{6}_{5}$, has even some advantages, in the leading of the voices, over the latter; particularly when progression into the minor I takes place, and additional "movement" becomes possible.



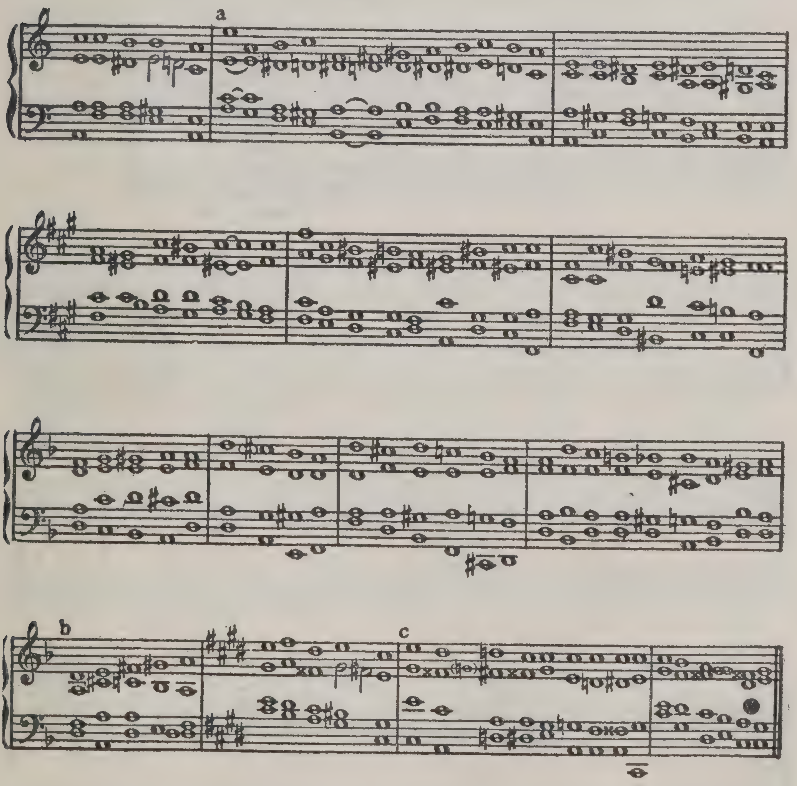
The progression from D to E♭ is of decided strength and adds a great deal of charm to the effect obtained. As mentioned previously, the chord in its $\substack{6\\4\\3}$ inversion represents the V_7 of the V key with the lowered 5th in the bass, but this harmony also is used to-day in all its positions, even tho the naming of all these remains the same, i. e., $\substack{6\\4\\3}$.

All the preceding chords for the introduction of the $^{6}_{5}$ may be used for the $\substack{6\\4\\3}$. The succeeding chords are also the same with this difference, that any position of the $\substack{6\\4\\3}$ may be led into V or V_7 without parallel 5ths resulting. On the other hand, progression through enharmonic change into N6 or N^{6}_{5} is at present not feasible because, even if written enharmonically the sound remains that of an $\substack{6\\4\\3}$, only belonging to a different tonality; which makes modulation inevitable.

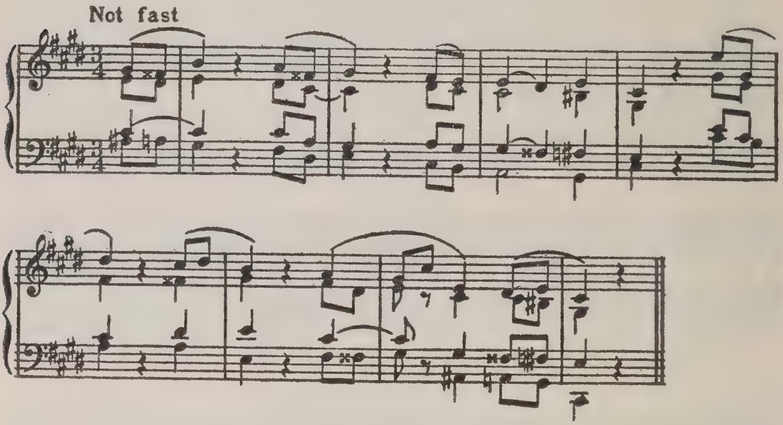


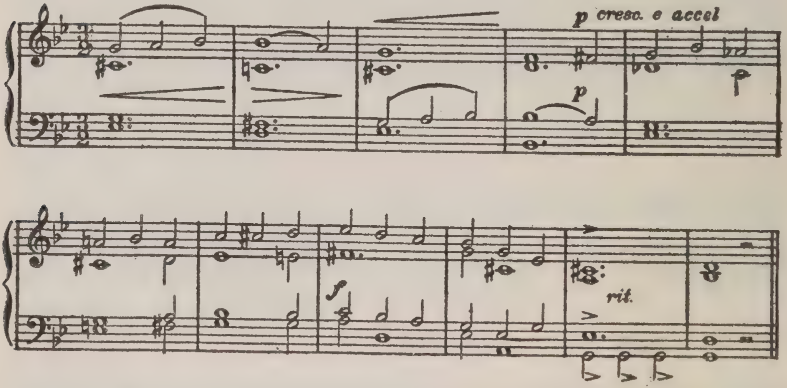
The chords marked with asterisks are absolutely identical in sound; the first one leads into V of C minor, the second one into the D♭ major triad, which immediately assumes the character of V to G♭ minor (or G♭ major).

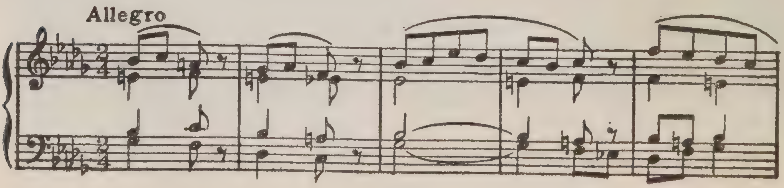
Preceding chords containing the raised 3d of the minor scale are of little value, altho not impossible as shown in Ex. b.

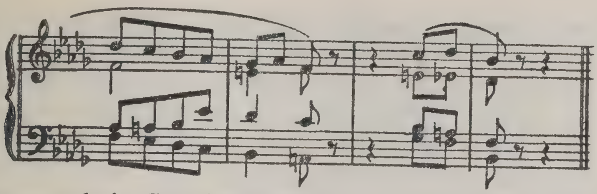


In these examples strength of voice-leading, particularly in the middle parts, has frequently been sacrificed for the sake of the "sound-color" of the $\begin{smallmatrix}6\\4\\3\end{smallmatrix}$ chords, and also a certain amount of "chromatic" has naturally become unavoidable; this is most evident in Ex. **a.** Where the upper voice seems monotonous it will be found that there is greater life in the middle parts, as in **c.**





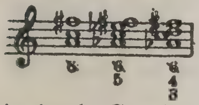
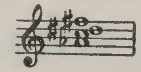




The example in C♯ minor contains only aug. 6th chords of the $\begin{smallmatrix}6\\4\\3\end{smallmatrix}$ variety, while the other two show samples of every one; besides, there is, of course, no reason why these chords should not follow each other, as for instance, in the little piece in G minor. The student looking for illustrations of these chords will find them in compositions by all the masters since the classical period. To mention some of the more striking examples look for them in Wagner's Introduction to Tristan, and in Ase's Death by Grieg.

Lesson: Furnish illustration of the use of $\begin{smallmatrix}6\\4\\3\end{smallmatrix}$ of V.

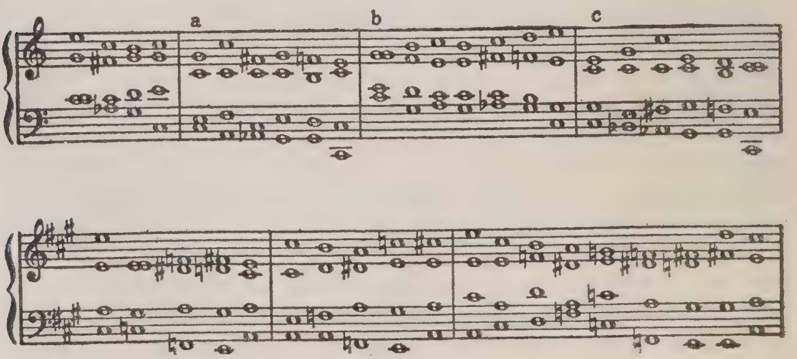
THE AUG. SIXTH FORMATIONS OF THE V KEY IN THE MAJOR TONALITY

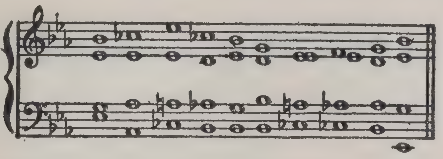
Every one of the aug. 6 formations mentioned so far may be introduced in major keys. They are absolutely the same chords as in minor, being simply transferred. Thus the chords  serve as altered V formations of the V key in both C minor and C major. Composers are in the habit of writing the $\begin{smallmatrix}6\\5\end{smallmatrix}$ when used in C major (particularly if the succeeding chord contains an E♮):  and some theorists have gone so far as to name it the American $\begin{smallmatrix}6\\5\end{smallmatrix}$ chord. There is no valid reason for any distinction whatsoever. In the first place, it is by now an established fact that harmonies originating in minor may be used in the parallel major tonality and vice versa, and further: the interval A♭ to D♯, as written, is a double aug. 4th, which the ear cannot accept as anything but a perfect 5th. The student should always remember, as pointed out repeatedly, that a note with a sharp in front of it has not necessarily the tendency to lead upward, nor a note with a flat to lead downward; both are "absolute" sounds and their notation depends entirely on their harmonic relationship to other tones. In the matter of preceding and succeeding harmonies there is even a slight increase of effective possibilities because minor key formations are more readily accepted in the major tonality than major in minor. (The student should reread the chapter on major formations in minor.)

As we advance in the study of harmonic material the student must learn to appreciate more and more that limiting successions of chords is nonsensical and impossible. The harmonic coloring must grow out of the logical necessity of the leading of the voices. While chords, as such, lose much of their importance, yet their color effect remains unimpaired. The following lists of preceding and succeeding harmonies do not claim completeness but they provide that material which is most frequently met with, and therefore is most natural.

The $\not{6}$ of the V key, as in minor, can only be used with the altered tone in the bass. (See rules in minor.) The best available preceding chords are: I, (I_{7},) $I_{7>}$ (only in last inversion), (III,) $III_{1>}$, $III^{1>}_{5>}$, $III^{7>}_{1>}$, VI, (VI_{7},) $VI_{1>}$, $VI^{1>}_{5>}$, $VI^{7}_{5>}$, IV, $IV_{3>}$, II, II_{7}, $II_{5>}$, $II^{7}_{5>}$, N6, V, V_{7}, VII°_{7}, (VII_{7},) $VII_{1>}$, ($VII^{7>}_{1>}$).

The succeeding chords include: V, V_{7}, III, $III_{1>}$ (the last two to be considered V formations and as such only practical in first inversion), V^{6}_{7}, VII°_{7}, I^{6}_{4}, (I, I_{6}, $II^{7}_{5>}$,) V_{9} (it is best then to double the altered tone, in the key of C major the A♭), $V_{9>}$, $III^{1>}_{5>}$, $III_{1>}$.





The cross-relation of the F and F♯ in example **a** is of no moment, as the chord injects such a foreign element into the key and moreover it might turn out to be a V_7, in which case we should not have F♯ but G♭. At **b** a I_7 is introduced just to show how little harmonic value it possesses: it is purely melodic. The student should observe at **c** how the F♯ intensifies the voice-leading as compared with the F♮, which latter tone would make the chord $\mathrm{IV}_{3>}$.

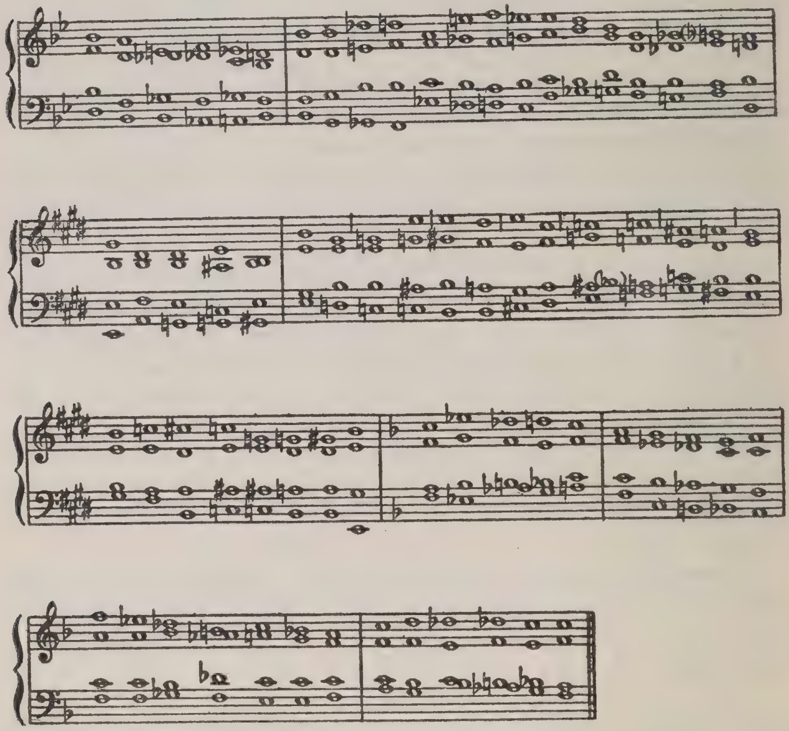
The aug. $^{6}_{5}$ chord, used in major, is subject to the same treatment as mentioned for it in the minor tonality. It has additional charm where the succeeding chords contain the 3d of the major scale on account of the resulting semitone. The positions of the preceding and succeeding chords are subject to the distribution of the intervals of the $^{6}_{5}$ and, as this chord is not limited to the $^{6}_{5}$ inversion, its introduction enhances the resources of the major tonality considerably, all the more as the choice of the preceding and succeeding harmonies is greater than in minor.

Preceding chords: I, $\mathrm{I}_{3>}$, (I_7, $\mathrm{I}^{7}_{3>}$,) $\mathrm{I}_{7>}$, (VI, VI_7,) $\mathrm{VI}_{1>}$, $\mathrm{VI}^{1>}_{5>}$, $\mathrm{VI}^{7}_{5>}$, ($\mathrm{VI}^{7}_{\substack{5>\\1>}}$,) III, $\mathrm{III}_{1>}$, $\mathrm{III}^{7}_{5>}$, III_7, $\mathrm{III}^{7}_{1>}$, ($\mathrm{III}^{7}_{\substack{1>\\5>}}$,) IV, $\mathrm{IV}_{3>}$, $\mathrm{IV}^{7}_{3>}$, $\mathrm{IV}_{7>}$, $\mathrm{IV}^{7>}_{3>}$, II, $\mathrm{II}_{5>}$, II_7, $\mathrm{II}^{7}_{5>}$, N6, N^{6}_{5}, V, (V_7,) VII_7, VII°_{7}, (V_9, V^{6}_{7},) $\mathrm{V}_{3>}$, $\mathrm{V}^{7}_{3>}$, $\mathrm{VII}_{1>}$, $\mathrm{VII}^{7>}_{1>}$.

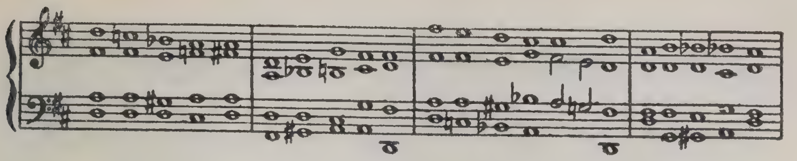
An almost endless variety! Do not neglect to review the text explaining the reasoning in choosing the preceding chords for the $^{6}_{5}$ in minor.

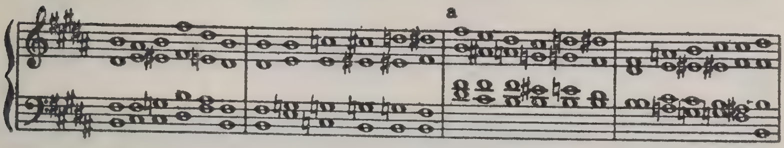
The succeeding chords are V, V_7 (of course restricted as in minor), V^{6}_{7}, $\mathrm{V}^{6>}_{7}$, III, $\mathrm{III}_{1>}$, VII°_{7}, VII_7, ($\mathrm{V}_{9>}$,) I, ($\mathrm{III}^{1>}_{5>}$, $\mathrm{III}^{7}_{\substack{1>\\5>}}$,) II_7, $\mathrm{II}^{7}_{5>}$, IV_7, $\mathrm{IV}^{7}_{3>}$, $\mathrm{IV}^{7>}_{3>}$. Progression into N6 and N^{6}_{5} becomes possible under the same conditions as in minor.

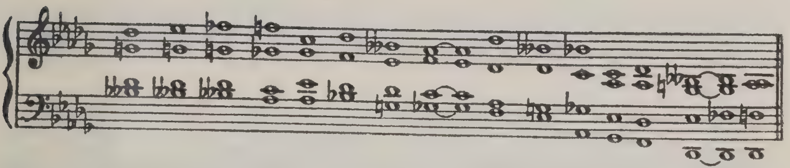
A close analysis of the following examples will show that most of the harmonies surrounding the various $^{6}_{5}$ chords are those placed in parenthesis, hence more or less difficult to use. This leaves the student free to introduce the more natural preceding and succeeding chords, and he should not experience any difficulty in furnishing a great number of well sounding examples.



The use of the aug. $\substack{6\\4\\3}$ in major presents no possibilities other than those mentioned of the aug. $\substack{6\\5}$; as a matter of fact, it is slightly less effective where the succeeding chords contain the natural 3d of the scale and a little more effective where they contain the lowered 3d. The preceding and succeeding chords are the same as furnished for the $\substack{6\\5}$ except that progression into N6 and N$^{6}_{5}$ is no more feasible in major than it was in minor. (Do not neglect to reread carefully what was said about $\substack{6\\4\\3}$ in minor!)

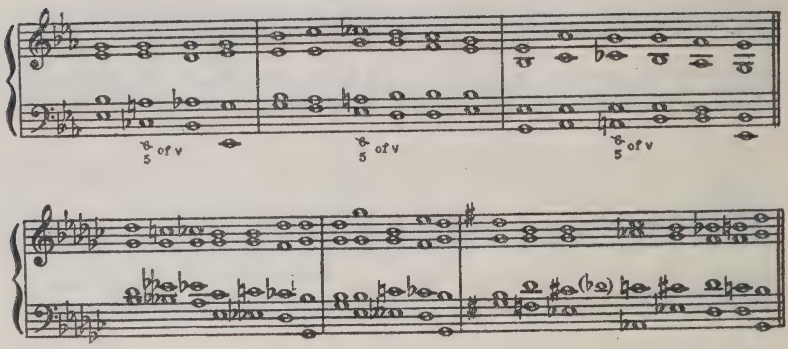






These examples prove that the $\begin{smallmatrix}6\\4\\3\end{smallmatrix}$ chords are rather more "at home" in minor than in major, nevertheless they furnish some valuable color. The example at a would naturally sound better if the unaltered V_7 of the V key had been used instead of the $\begin{smallmatrix}6\\4\\3\end{smallmatrix}$.

An aug. $\begin{smallmatrix}6\\5\end{smallmatrix}$ of the V key must be mentioned here, which is the result of an alteration of VII_7 and therefore distinctly of the major type. In the key of C major this chord is A♭-C-E♮-F♯, an alteration of the VII_7 of the V: F♯-A-C-E. It sounds best with E♮ in the soprano and A♭ in the bass, but there is no reason why F♯ or C should not be used in the bass, particularly if the voice-leading is skillfully handled. The preceding chords are largely the same as given for the original $\begin{smallmatrix}6\\5\end{smallmatrix}$ but the succeeding chords are limited to IV, V_7^6, and I. Possible are also V_7, V_9, II_7, $II^7_{5>}$, $I_{3>}$ as well as N6. If the last is used, the chord becomes a V_7 with raised 5th; in C major this would equal the change of A♭-C-E♮-F♯ to A♭-C-E♮-G♭, but as the next chapter deals with chords containing raised 5ths it is of little importance here.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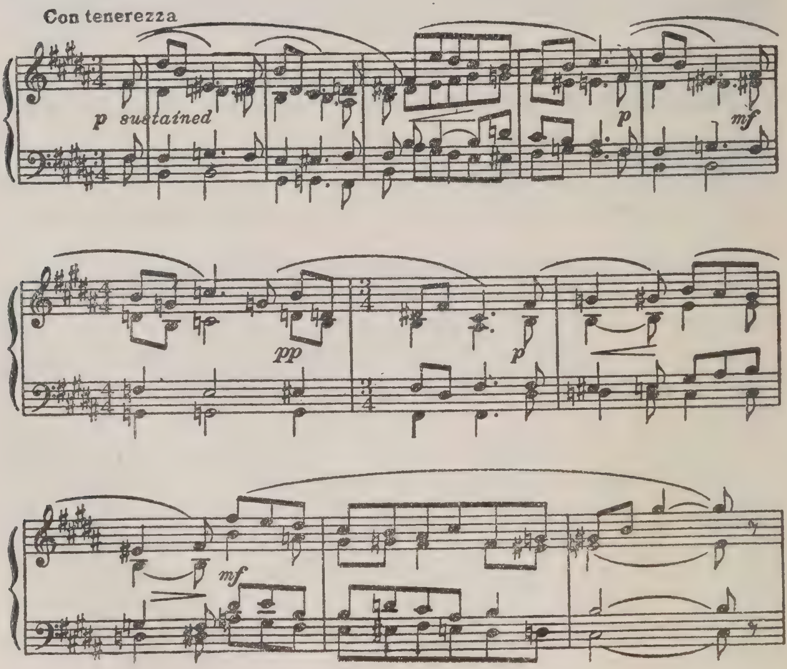
8 5 of v
8 5 of v

The limitations of this harmony are quite apparent and the examples need no further explanations.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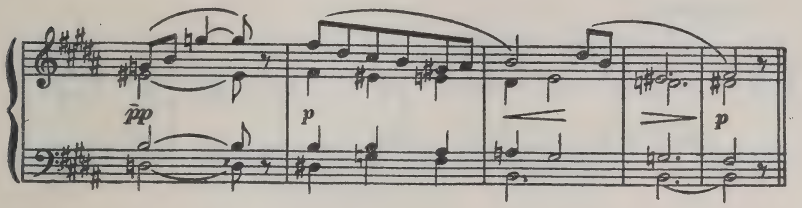
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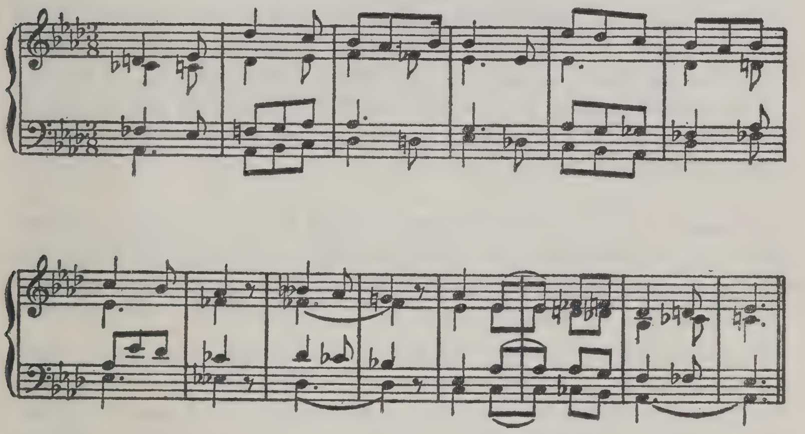

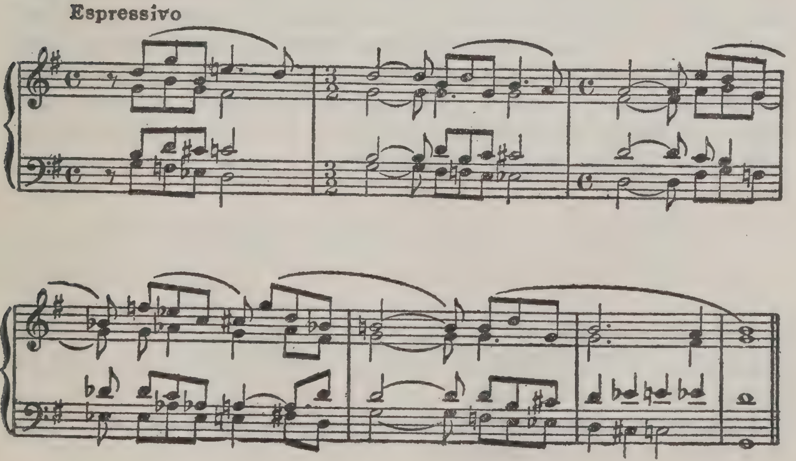
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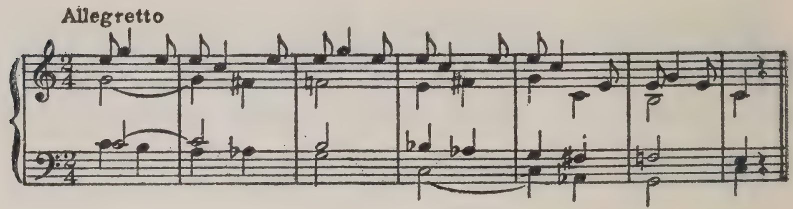


These little tone pictures contain illustrations of all the aug. 6th formations. Only material with which the student is already familiar has been introduced, an exception being found in the G major piece, where, in the 4th measure, the V_7 of the N6 is "stretched" into a V_9. The "sound effects" will easily be recognized as those contained in the works of Wagner, Tschaikowsky, Franck, etc.

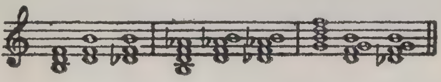
Lesson: The work may be divided at the teacher's discretion. It is necessary that the student should illustrate separately, in major keys, some of the progressions given for the use of the $\not{6}$, the two $\genfrac{}{}{0pt}{}{\not{6}}{5}$s and the $\begin{smallmatrix}\not{6}\\4\\3\end{smallmatrix}$. In his little compositions, he may combine all of the aug. 6th formations, as I have done.—Be sure to play every chord progression consciously and interpret the little compositions as you would masterpieces; whatever is worth playing is worth playing well! In order to understand the progressions given in the short examples it will be of help to "think" them as if bars were indicated; some sound best if the first chord is regarded as an up-beat, others if it represents the first beat of a measure and, again, division into double or triple time will aid greatly. Do not neglect placing analytical figures under the chords.

THE AUG. SIXTH FORMATIONS OF THE TONIC KEY

In modern music alterations of the V formation belonging to the key itself are frequently met with. They necessitate the lowering of the 2d degree of the scale, as will be shown presently and while this only slightly disturbs the character of the I in the minor key, if introduced in major it causes the same key disturbance which was pointed out when the N6 formations were under discussion.

The V formations which may be altered so that they become aug. 6th chords are the triad on the leading-tone, the diminished 7th chord and the dominant 7th.

They are, in C minor:

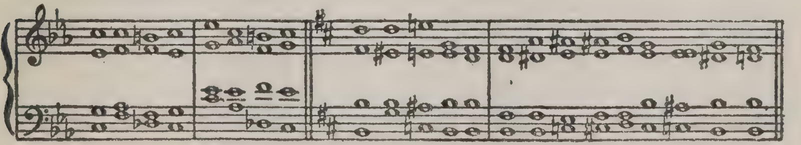


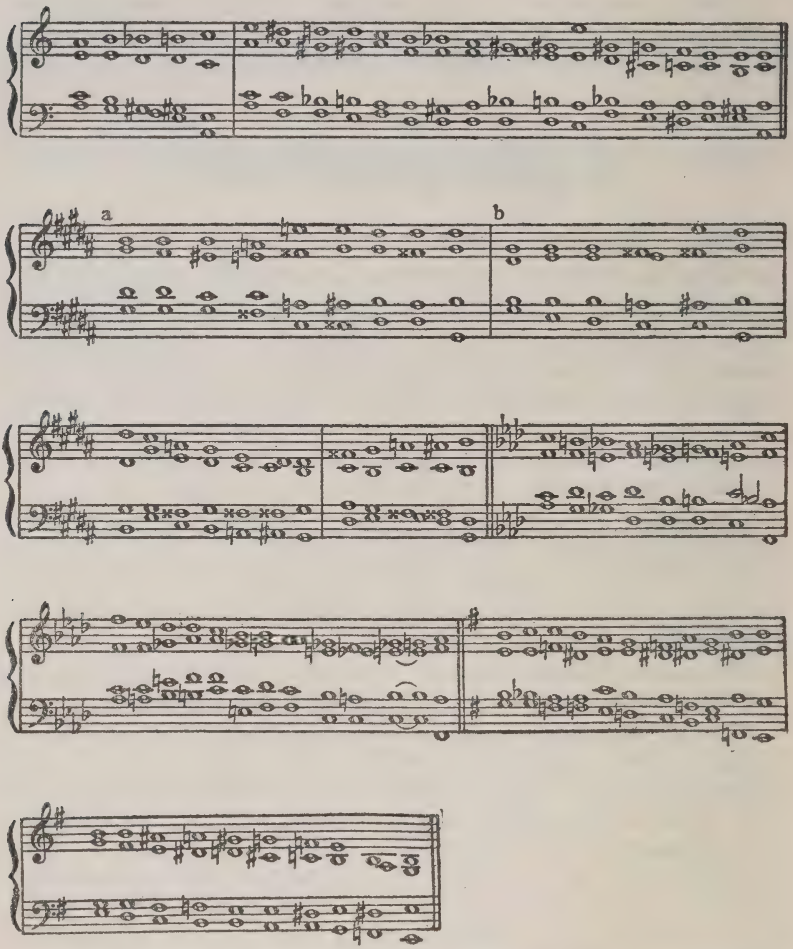
The first of these is called the $\not{6}$ of I, the second, $^{6}_{5}$ of I, and the third, $\substack{6\\4\\3}$ of I. It is understood that G is the ideal root of all these chords, hence the altered tone is again the lowered 5th, and, if named correctly, they should be indicated as V formations with lowered 5th; however, as a concession to tradition, the above names will be adhered to. Their usefulness is rather limited, adding just a bit of color to the harmonic background of a musical idea. The $\not{6}$ can only be used with the altered tone in the bass, the other two may occur in any position.

If introduced in the minor tonality, they may be preceded by such IV formations as IV, IV_7, II, II_7, VI, (VI_7,) N6, N^{6}_{5}, also by I, (I_7,) $\mathrm{I}^{7}_{3<}$, III and by V, V_7, $\mathrm{III}_{5<}$, VII°_{7}, V^{6}_{7}: very effective preceding chords are the aug. 6th formations of the V key; less so are: $\mathrm{VI}_{5<}$, $\mathrm{VI}^{7}_{5<}$, $\mathrm{VI}^{7}_{1<}$, $\mathrm{IV}_{3<}$, $\mathrm{IV}^{7}_{3<}$, $\mathrm{V}_{3>}$.

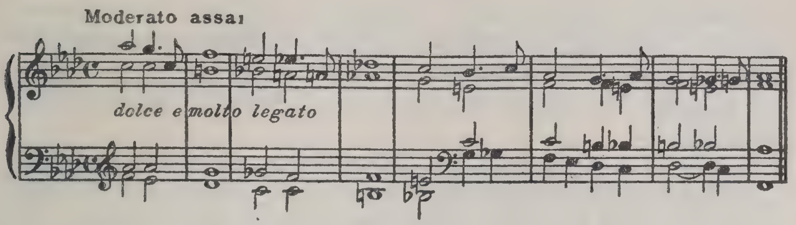
The succeeding chords are: I, I_7, $\mathrm{I}_{7>}$, VI, IV, VII°_{7}, also the aug. 6th formations of the V key and the unaltered V_7.

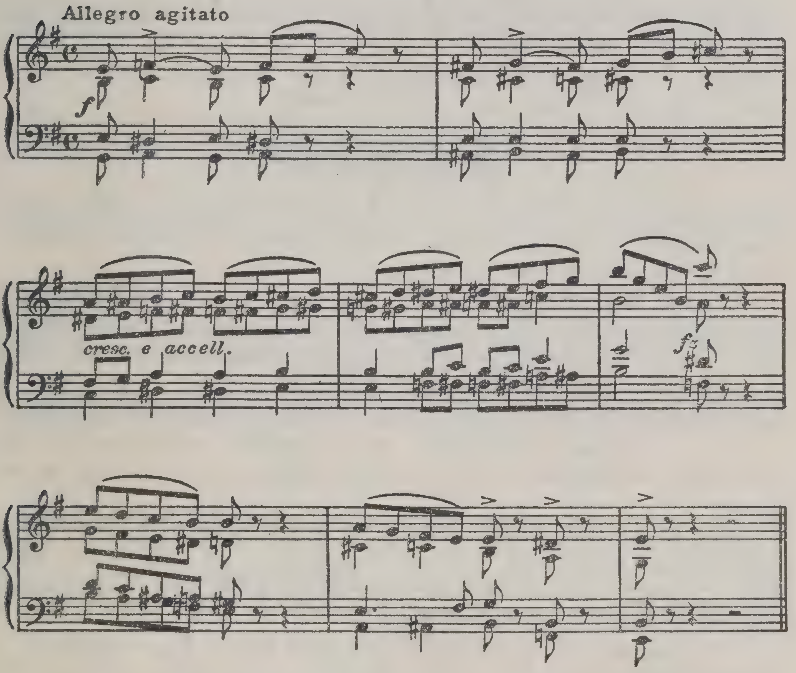
By far the most important of these chords is the $^{6}_{5}$, on account of its ambiguous character. It presents not only the V idea of the key but is frequently met with as a IV formation. This is particularly emphasized when it is succeeded by the unaltered V_7 of the key. The unaltered VII°_{7} is freely used in place of IV, as was shown in the lesson dealing with that harmony; in its altered form its IV character is even intensified, because it now contains all the intervals of the N6, plus the leading-tone, the latter furnishing the only clue to its V character.





The chromatic movement of voices, much in evidence in these examples, makes the resulting sound available for the expression of sinister situations. There is little decisive motion; one might say that the voices were creeping. This effect, however, has its rightful place in musical expression. The somewhat awkward intervals in the bass and alto at **a** and in the alto at **b** are to be condoned, because the chords involved at **a** are absolutely the same and at **b** essentially so.


Moderato assai
dolce e molto legato

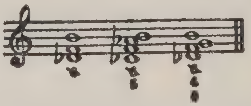

Allegro agitato
f
cresc. e accell.
f

The above little pieces are not "vocal" but instrumental in character and a certain amount of freedom in the movement of the voices is therefore permissible. The necessity of introducing as many as possible of the aug. 6 formations, both those of the V and of the I, makes the breaking of the rules regarding voice progressions almost unavoidable. On the other hand, the gain of harmonic color easily offsets this defect, if such it is, and as the kaleidoscopic progressions pass the consciousness of the musical ear it readily condones such 5ths as are to be found in measure 3 and the aug. 4th steps in the bass in measures 5 and 7 of the Allegro Agitato. These conditions make cross-relation also of little moment.

Lesson: As usual: illustrate these chords in short and long **examples.**

THE AUG. SIXTH FORMATIONS OF THE TONIC IN MAJOR KEYS

The chords are again absolutely the same as in minor, simply transferred to the major tonality. The tendency to make the major I sound like a V to its IV is naturally very strong because the aug. 6 formations of I are identical with those of the V of the IV key; that is the chords



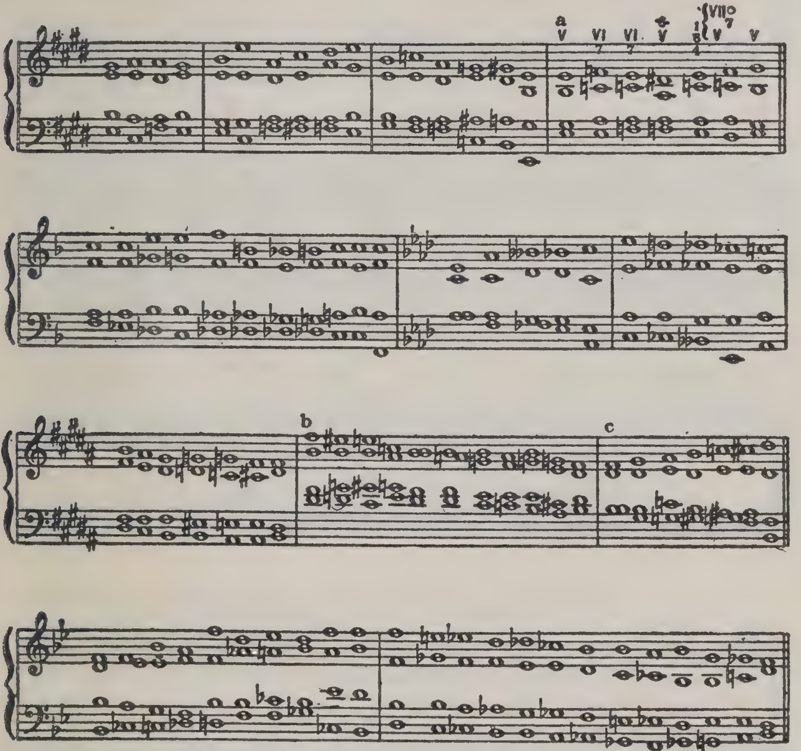
can be heard as $\not{6}$ formations of the tonic in C major and also as $\not{6}$ formations of the dominant in F major.

I shall not attempt to give separate lists of preceding and succeeding chords for each of these harmonies; the student must learn to use judgment in this matter (the choice being governed by the necessity of the voice-leading) depending on his teacher's superior experience and knowledge for advice.

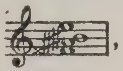
The preceding harmonies are compiled according to the principles explained in the previous lesson. Do not fail to review!

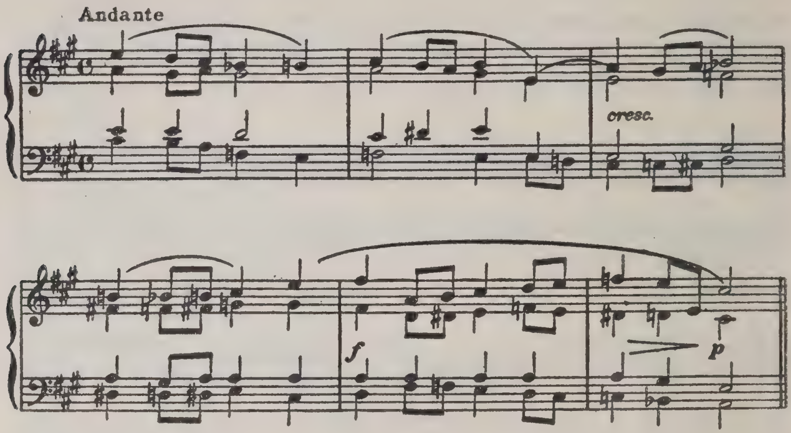
IV, $IV_{3>}$, (IV_{7}, $IV^{7}_{3>}$,) $IV_{7>}$, II, ($II_{5>}$,) II_{7}, $II^{7}_{5>}$, VI, (VI_{7},) $VI_{1>}$, $VI^{1>}_{5>}$, $VI^{7}_{5>}$, N6, (N^{6}_{5},) I, (I_{7},) $I_{3>}$, $I_{7>}$, ($I^{7}_{3>}$, $I^{7>}_{3>}$, III,) $III_{1>}$, ($III^{1>}_{5>}$, $III^{7}_{5>}$,) V, V_{7}, V^{6}_{7}, VII_{7}, VII°_{7}, V_{9}, $V_{9>}$ and all aug. 6 formations of the V key.

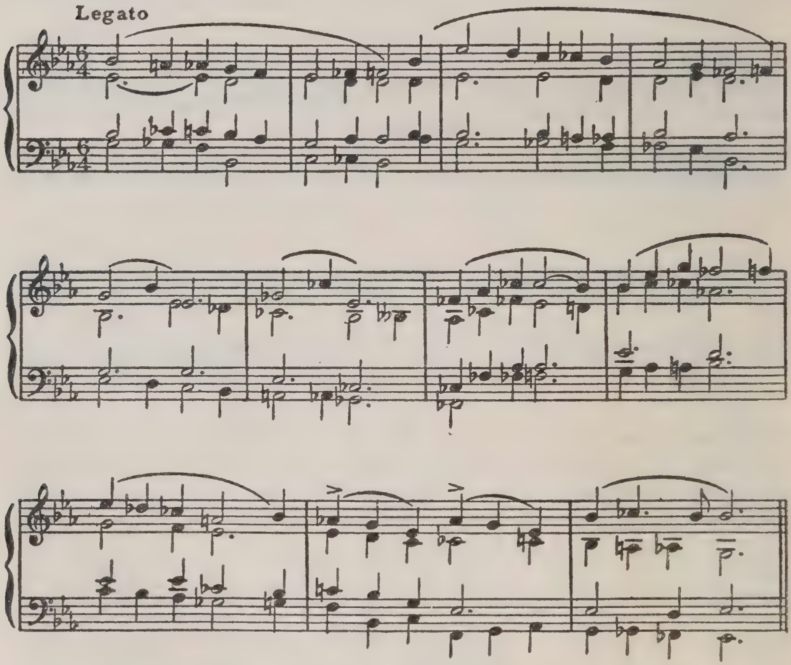
The succeeding harmonies comprise the I, $I_{7>}$, unaltered V formations (particularly V_{7}), IV, $IV_{3>}$, VI, $VI_{1>}$, $VI^{1>}_{5>}$, II_{7}, $II^{7}_{5>}$ and all the aug. 6 formations of the V key. (In view of the fact that only comparatively few succeeding harmonies are given, it may not be amiss to call attention again to the great principle of V to I progression, which governs practically all movement in music. Hence, bona fide V formations of a key have the least choice of progression as the I is their rightful goal. On the other hand, it stands to reason that any preceding chord may be used as succeeding harmony inasmuch as this simply means retracing a step. In many cases this will prove artistically unsatisfactory and a great deal of judgment, a matter of education and natural aptitude, is required in the choice of succeeding harmonies.)



These few illustrations should be sufficient to substantiate some of the statements made above. At **a** the analysis may be either with E major or A minor as I and example **b** may be heard in B major as well as in E minor.

The progression of the $^{6}_{5}$ into the VI at **c** makes the former assume the functions of a VII$^{\circ}_{7}$ of G♯ minor and it could therefore be written , the B♯ being regarded as a substitute-tone for C♯.

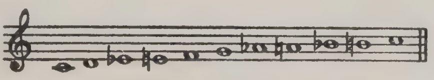

Andante
cresc.
f
p



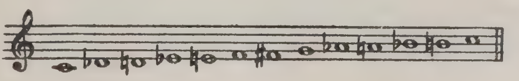
The fourth measure of the A major piece introduces an unaltered V_7 of the V key, but as this chord has been mentioned previously, the student should not be puzzled by it. There is really no connection between measures 7 and 8 in the E♭ major composition, but it is possible to regard the 8th measure as a sequence of the 7th to be played by a "different group of instruments of an orchestra."

Lesson: Illustrate the aug. 6th formation of the I in major in the usual way.

The chapter just concluding prompts me to deal briefly with the chromatic scale. It has always seemed incongruous to me to give the rule: Sharp the intervening half steps in any ascending diatonic scale and flat them descending. If the harmonic significance of the half steps is left out of consideration, it really makes no difference whatsoever how they are written, so long as diatonic steps of the underlying major or minor scales are not obliterated. But the above rule has created nothing but confusion; and the incorrect "spelling" of chords (so frequently met with, even in the compositions of "knowing" musicians), must be laid at its door. There seems to me a simple way out of this uncertainty if the following facts are understood: The nearest related keys to-day are unquestionably the major and minor scales on the same tonic. This provides, to begin with, the following basis:



which leaves only two half steps to be accounted for. One of these must be F♯, the leading-tone of the V key (used in all the 6 formations of the V key), and the other one must be D♭, the lowered 5th of the V formations of the tonic key, which is also the altered tone in the N6. If these are inserted, the chromatic scale would then be composed of the following tones:



The advantage of this notation is that it applies to both the C major and C minor tonalities and is applicable ascending as well as descending. I am by no means insensible to the fact that the sharps used as intermediate half steps can be heard as leading tones; C♯ might represent the 3d of the V to D minor, D♯ to E minor, G♯ to A minor, but what about the A♯? This tone might be considered leading-tone to B minor as III triad in the V key, at all events, here, B♭ is much the nearer related tone and it must also be remembered that it is a prominent member of the overtone series of C!

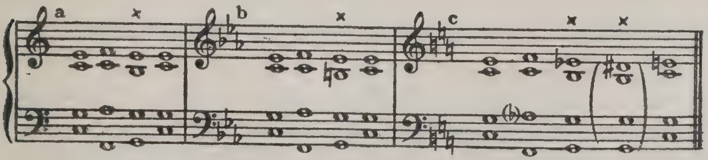
The tones which are flatted in the ascending chromatic scale based on C are to be used descending as well. A G♭ would be too far removed; it can only be accounted for as the 7th of the V of the key which the N6 represents: i. e., in the key of C—D♭ major. The harmonic derivation of the sharps in the ascending and the G♭ in the descending chromatic scale proves without a doubt that their relationship to the key is much further removed than those of the tones which I suggest. The student might profitably investigate the chromatic in the examples furnished for the last chapter and he will soon be convinced of the soundness of my argument. The adoption of my idea will probably come about when the bars of habit and unthinking acceptance of tradition have decayed.

CHAPTER XV

CHORDS WITH RAISED FIFTH

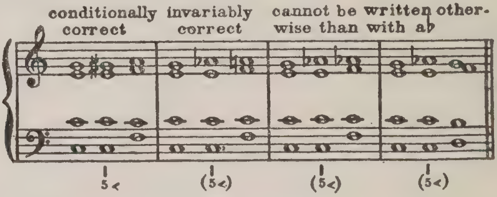
Any major triad or any harmony, which has a major triad for its foundation, may occur with raised 5th. (The prototype of all these chords is the III in the minor tonality.) These chords possess great charm, on account of their enharmonic possibilities, and their manifold ambiguity which makes them valuable assets to the color scheme of modern harmonization.

Their notation has, unfortunately, been regulated by that stupid assumption that "sharps lead up and flats down", an incongruity that I have mentioned and explained at various times. If we take into consideration the closest relationship, that of the major and parallel minor tonalities, we must come to the conclusion that the chords in question are misnamed, that in most cases a substitute tone is really being used and that this tone is the lowered 6th from a given root rather than a raised 5th. For instance: the chord C-E-G♯ is admittedly a C major triad with raised 5th, but the G♯ stamps the chord immediately as a combination belonging to A minor (or A major). On the other hand, if the chord is written C-E-A♭ its relationship to F minor (or F major) is quite apparent. Supposing then that the established tonality is the key of C major, the relatively greater importance of the key of F, than the key of A, within the C major tonality, cannot be questioned. This same reasoning must be applied to the V formations with so called raised 5th. It is certainly more logical to notate the altered V in C major G-B-E♭ than G-B-D♯. The following examples may possibly make my point still clearer.



At **a** the 3d chord is V with E as a substitute tone for D, at **b** E♭ takes the place of D, and there is no earthly reason why E♭ should not take the place of D in Ex. **c**: surely, the V function of the 3d chord is the same in all three cadences. The fact that these tones are melodic substitutes for the 5th of the triad has been pointed out in the lessons concerning the III in major and minor as well as in the one devoted to the interchangeable use of the major and minor tonalities based on the same I.

The writing of a raised 5th is simply traditional, and the student may write the tone to suit his convenience; I shall not quarrel with him. The following rule may solve possible perplexities: If the movement of the interval in question is upward, it may be written as a raised 5th, if the interval remains stationary or if it descends it must be written as a substitute tone, i.e., the lowered 6th from the root; nevertheless, it is invariably correct to write the substitutional tone whether it ascends, remains stationary, or descends, while the raised 5th is only conditionally correct: i.e., if it ascends.

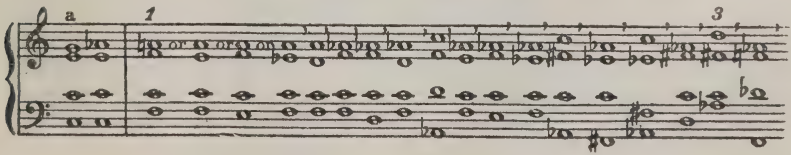


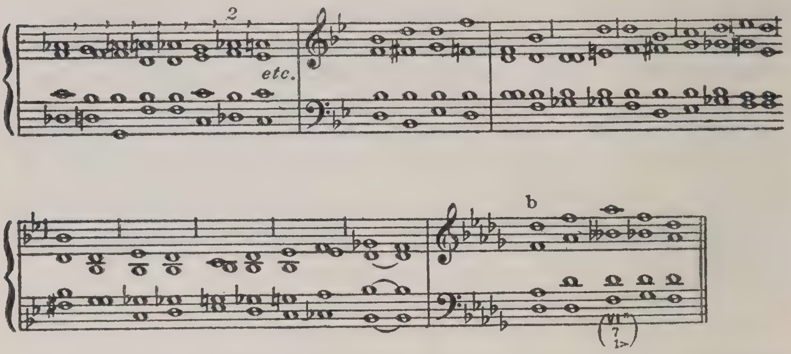
If the 5th of the chord is actually raised it is indicated 5<; if a substitute for the 5th is used it should really be indicated as 6>, but if the foregoing explanations are understood it will be just as well to mark it (5<) the parenthesis indicating a substitution. After all: What's in a "sign"?—the "sound" is the thing! The harmonies in a major tonality, subject to the new alterations, are I, I_7, V, V_7, V_9, VII_7, VII°_7, IV, IV_7 and IV_9.

The $I_{5<}$ is C-E-A♭ or C-E-G♯; it may be introduced freely and while the altered tone is perhaps most effective if approached by half step, either from below or above, this progression is by no means necessary, introduction by skips being always permissible. The chord may occur in any position, preceded best by I or any V formations in unaltered or altered form; but no harmony of any kind, previously dealt with, can really be excluded. The use of the succeeding harmonies is governed by the movement of the altered tone or, in other words, the succeeding chords for $I_{5<}$ in C major must contain either A♮ or A♭ or G♮ and as one or the other of these is an interval of every harmony treated so far, we may truthfully state that there are no limitations in the choice of succeeding chords, except that the half-step progression of the altered tone can seldom be dispensed with. The student must realize that the best succeeding chords are IV formations (in the widest sense of the term); less effective are V formations and the I.

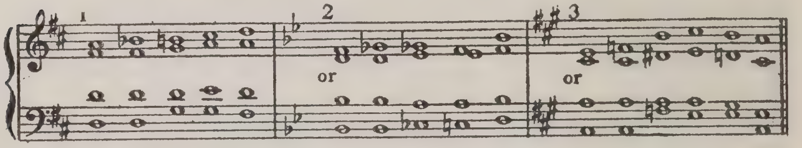
The $I^7_{5<}$ is more limited in its possibilities, as the harmony contains two strongly melodic tones, the altered one and the 7th, both demanding rather definite leading. The chord in C major is C-E-$\overset{\frown}{\text{A♭-G♯}}$-B. Besides being a $I^7_{5<}$, it also has the qualities of the $III^7_{5<}$ in the minor tonality. The introduction of the altered tone is subject to the suggestion made for $I_{5<}$ and the 7th is to be prepared as mentioned when I_7 in major and III_7 in minor were discussed. The 7th usually leads downward but may ascend or skip upward (see rules for I_7 and III_7); the altered tone moves as in $I_{5<}$. As an harmonic combination the chord (possible in any position) is best preceded by I, VI, sometimes by IV and by various V formations. The succeeding chords, subject principally to the leading of the 7th, are: IV, VI, IV_7, II_7, VII°_7. All these may contain the lowered 6th of the scale and some of them also the lowered 3d.

The I with lowered 7th may also make use of the raised 5th; this combination in C major would be C-E-$\overset{\frown}{\text{A♭-G♯}}$B♭. This chord, at best, is rather a V_7 in the key of F and thru the addition of the A♭ or G♯, its status is even emphasized; it will therefore be dealt with in the next chapter and may be omitted here.

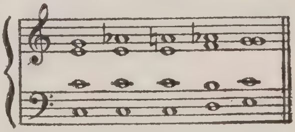




At a is shown how one single combination of the aug. tonic triad may be followed by almost innumerable harmonies. The student must play the first two chords and then any one of the succeeding harmonies, adding a few necessary progressions to bring the example to a close. For example:

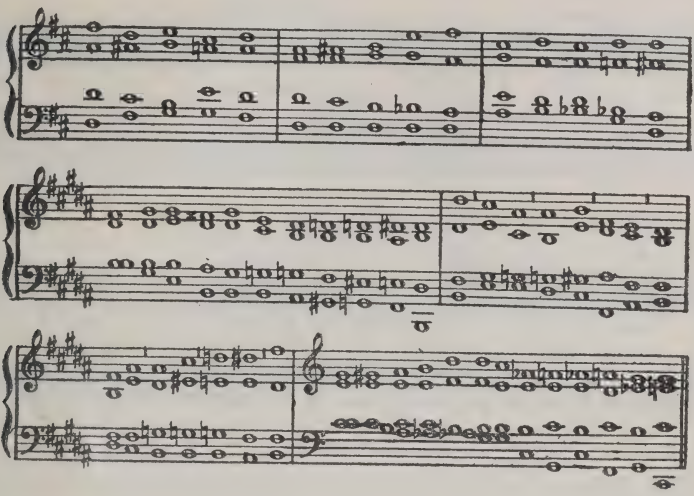


The first of these shows the progression marked 1, the 2d marked 2 and the 3d marked 3 among the progressions given at a. It is advisable to play them in different keys. In some of the above illustrations the raised 5th is written, but in every instance the substitute tone would have been absolutely correct. Even the following writing is justified in C major

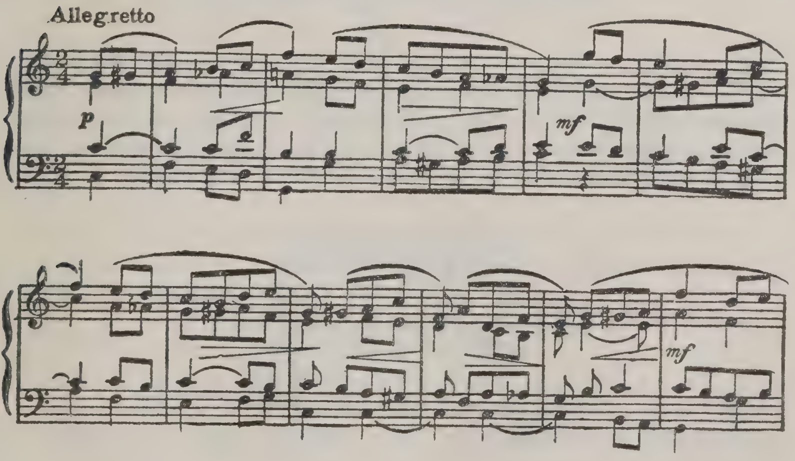


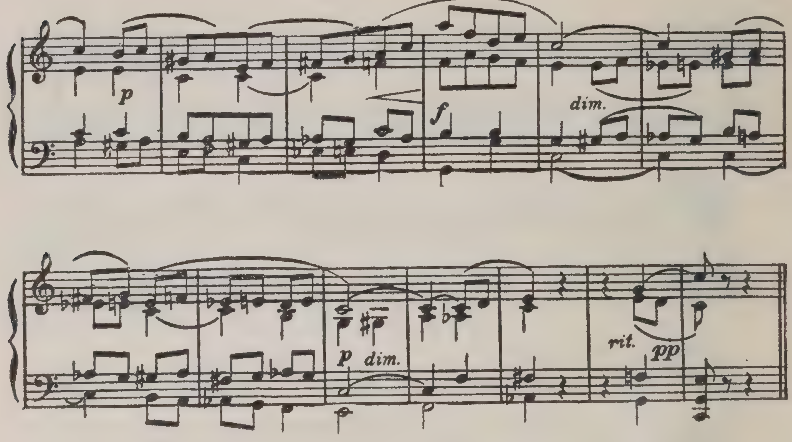
as was explained in the chapter on the interchangeable use of major and minor tonalities.

The example at b contains both the 5th and the 6>; the chord is really a VI$^{7}_{1>}$ but may be considered I$_{(5<)}$.



The above examples merely furnish convincing proof of the melodic character of the so called I_7, even more so with its "raised 5th". The irregular movement of the 7th has been explained before.

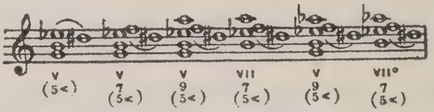




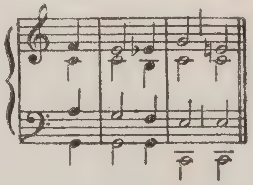
The little Allegretto contains various illustrations of both $I_{5<}$ and $I^{7}_{5<}$; be sure to analyze and play it.

Lesson: Add to the suggestions given above.

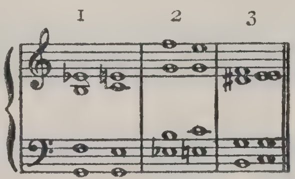
The V formations with raised 5th in C major comprise the following chords:



Either E♭ or D♯ may be written subject to the leading. The altered tone either ascends a half step, or it remains stationary or it descends a half step. In exceptional instances it may even skip.

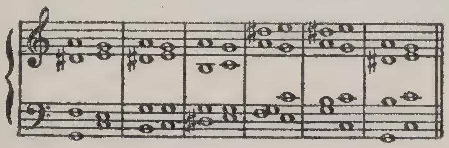


The excuse is furnished by the leading of the tenor which is at least as strong as that of the soprano. Of course the soprano might have gone to E doubling the 3d of I; it is simply a case which has to be left to the composer's fancy.



The chords containing the 7th and the altered tone usually sound best if the altered 5th lies above the 7th (1), or if the 7th and the 5th are kept at least a tenth apart (2). The juxtaposition of the tones at 3, while not objectionable, is most effective if played by two instruments of different tone-color.

The $V^{9}_{5<}$ necessitates, in four-part writing, the omission of either the 7th or the 3d. On the other hand, the 5th, which has previously been omitted, is, in its altered form, a decided asset to the sound of the chord and may even furnish an effective bass-tone.

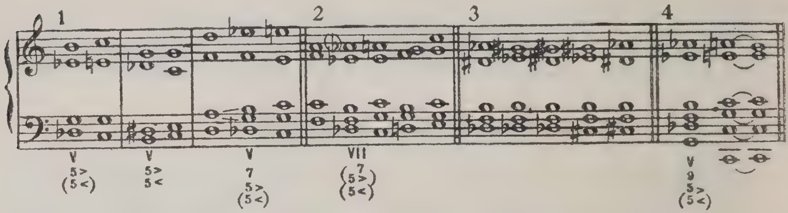


The foregoing is naturally applicable to $V_{9>}$ as well. This chord and also the VII°_{7} show conclusively that the altered tone should be written as 6>, because the interval A♭ to D♯ sounds like a perfect 5th and cannot be heard as a double aug. 4th. Still it is frequently found written as such or as D♯—A♭, a double dim. 5th.

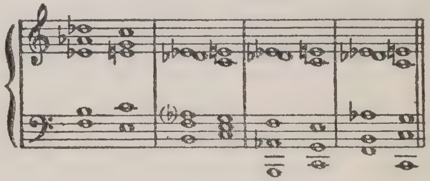
It is, of course, not necessary to speak of an altered 3d in VII_7 and VII°_{7}; the root of both being the V—the altered interval may still be indicated as 5<, or (5<).

The preceding harmonies for any of these altered V formations include every combination dealt with so far, without reservation. The best succeeding chords are naturally the I, I_7, $I_{5<}$, $I^{7}_{5<}$, III, VI_7. Other harmonies than these must be the outcome of voice-leading, dictated by the necessity of certain tone colors.

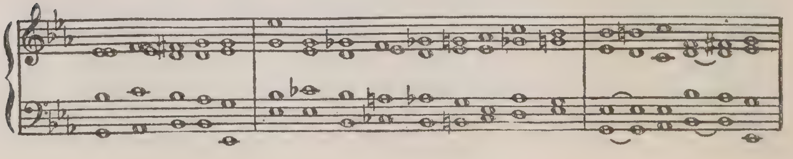
In some of these altered V formations it is possible to use the lowered and raised 5ths simultaneously.

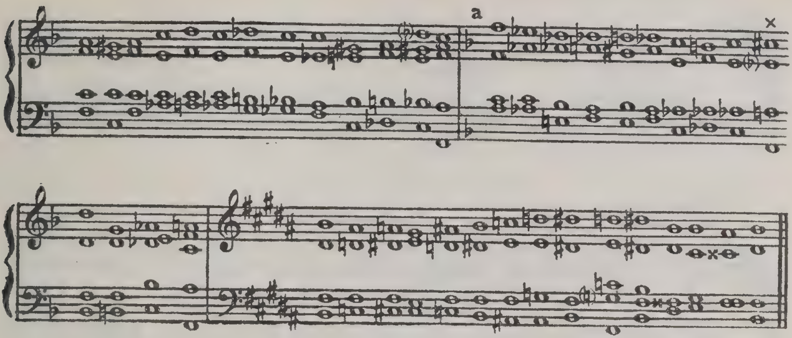


These examples prove that only the V triad with lowered and raised 5th is available for real four-part writing; the others demand five voices and V$_9$ even six. They are mentioned here so that the student may recognize them if he finds them in modern compositions. The example marked 1 proves the possibility of finding a D♯ and D♭ in the same harmony: of course E♭ instead of D♯ is the correct notation. At 2 either VII$_7$ or VII$^\circ_7$ may be played; the leading of A♭ to A♮ is necessary in order to avoid 5ths with the Bass. A resolution directly into I becomes possible if D♭ is placed above A♭.



At 3 are shown the different ways of writing the VII$^{\circ(5>)}_{7(5<)}$, which may be met with; the best and most correct is the one in example 2. The V$_9$, example 4, may also move directly into the I if D♭ is placed above A♭.

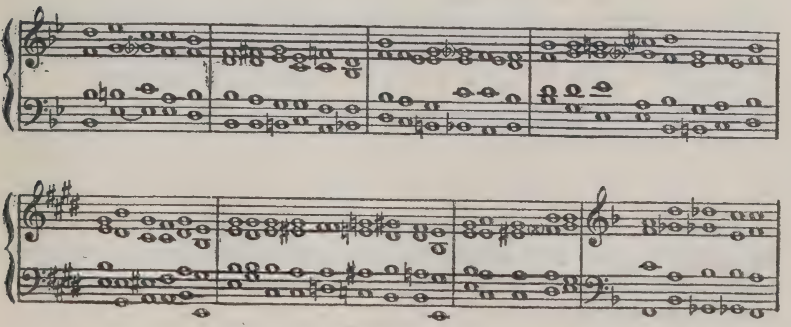


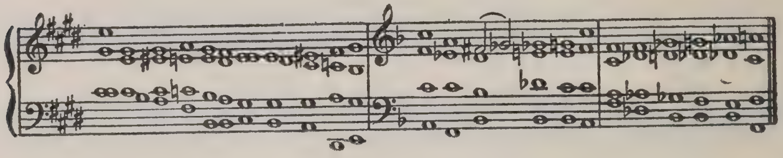


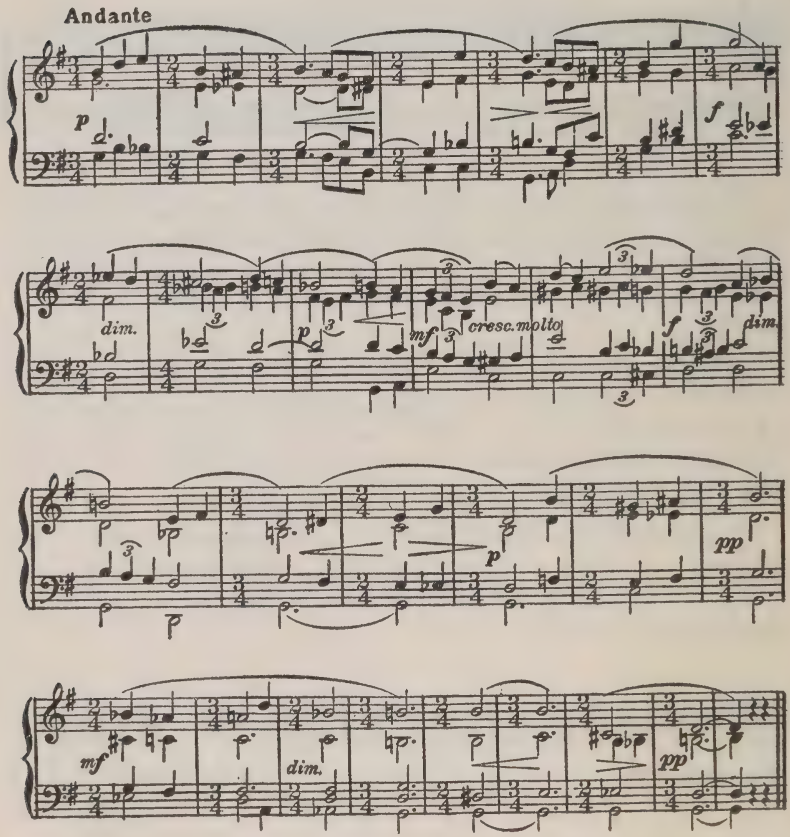
The example at a contains a $\mathrm{I}^{7>}_{5<}$ which produces an intensified V effect to the IV. The lowered 7th, while not an absolute necessity (play it with E♮ in order to appreciate the difference in sound), mellows the tone color considerably.

The IV formations with raised 5th in C major are F-A-C♯, F-A-C♯-E and occasionally F-A-C♯-E-G. Their leaning towards the D minor tonality is so strong that a substitution of the D♭ for C♯ is rarely necessary. Their rather direct relationship to the supertonic key impairs their usefulness considerably. The best preceding chords are I, I_7, $\mathrm{I}_{5<}$, $\mathrm{I}^{7}_{5<}$, VI, VI_7, IV, IV_7, II, etc.

The succeeding chords are II, II_7,—particularly rich is the progression into $\mathrm{II}^{7}_{5>}$,—VII_7, VII°_{7}, $\mathrm{VII}_{1>}$, sometimes V formations. Needless to say that all these harmonies may occur with their various alterations.






Andante
p
f
dim.
p
mf
cresc. molto
f
dim.
p
pp
mf
dim.
pp

Lesson: The student must try to work out other progressions than those furnished in the above examples; there are many more effective ones. Write short and long examples; analyze those above.

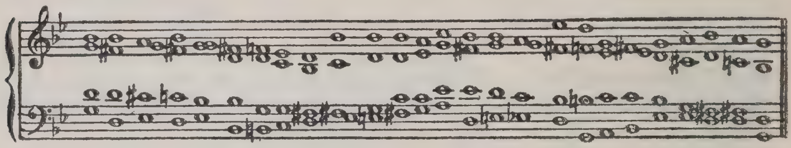
THE CHORDS WITH RAISED FIFTH IN THE MINOR TONALITY

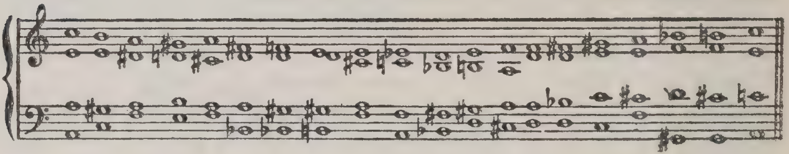
There are a number of harmonic combinations in minor, having a major triad for their foundation, which may occur with raised 5th or the substitutional 6th. First of all must be mentioned the V formations, some of which have been considered previously. These, especially, prove my contention that the raised 5th is in most cases an anomaly. The V formations in minor could not possibly be written with a raised 5th, because that interval is nothing but the 3d of the scale, which cannot be conceived as anything else. It therefore would be foolish to write in A minor the chord E-G♯-B♯; it must be written E-G♯-C. This then shows the III in 1st inversion. The V_7 with substitutional tone is E-G♯-C-D which we have learned to recognize as V^6_7. The V_9, E-G♯-C-D-F is of little value in four-part writing as it necessitates the omission of either G♯ or D and, furthermore, there is no compelling leading for the C, proving it to be a purely melodic tone, to be considered either as a suspension of B or the anticipated 3d of the I triad. Of much greater value is the VII°_7 chord G♯-C-D-F, on account of its possible ambiguity; it may be considered as A♭-C-D-F, when it becomes II_7 in C minor or C major or $VI^7_{1<}$ in F minor (or F major), thus furnishing effective means for modulatory purpose. All these V formations may, of course, be preceded by any harmony mentioned previously, but the succeeding chords are limited to I, $I^7_{3<}$ and such chords as are based on the VI including VI, VI_7, $VI^7_{1<}$, $VI_{5<}$ and the aug. 6th formations of the V key. To these may be added a few IV formations, particularly the II_7.

The III_7 with raised 5th—C-E-G♯-B—has become by now a familiar combination and is mentioned here again only to complete the record.

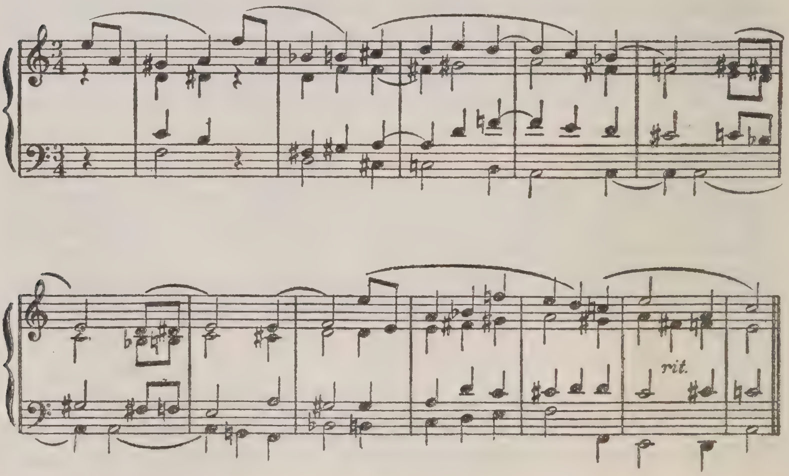
Other harmonies with raised 5th in minor are the VI and VI_7, in A minor F-A-C♯ and F-A-C♯-E respectively. These also are chords which the student will find among the major formations in the minor tonality, treated of in a previous chapter. The rules then given for their use still apply, only that the list of succeeding chords may be increased by the V formations with lowered 5th, the N6 chords, and sometimes by some of the aug. 6th formations of the V key.

If the substitutional tone is used for the 5th of $IV_{3<}$ the chord D-F♯-B♭ results, in other words, the N6 with raised 5th, and if it is applied to the IV$^7_{3<}$, even such a combination as D-F♯-B♭-C may result. Both of these harmonies lean strongly toward the G minor tonality and are obviously too far removed from the A minor key to be considered otherwise than purely accidental melodic formations. This is also true of the N$^6_5$—in A minor B♭-D-F♯-A.





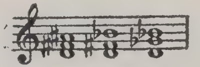
The first of these examples contains specimens of all the V formations with substitutional tones and the 2d the bona fide raised 5ths. The last chord but one in the A minor example presents an interesting combination, the C♯ being a substitute tone for D.



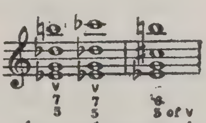
The material employed in the above example is none other than that with which this lesson deals. It is well worthy of careful analysis.

Lesson: It is best to write a few short examples; each one demonstrating certain progressions. This will give a more definite comprehension of the possibilities of these chords than if they are strung together, as in the examples furnished by me. (Their condensation is dictated by the necessity of "saving space".) Always try to introduce some of these chords in real musical thoughts.

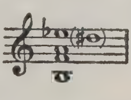
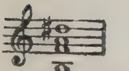
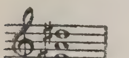
The modulatory value of chords containing 5<, or tones of substitution, has already been pointed out and the following tabulation of enharmonic changes and ambiguous readings will undoubtedly be readily understood.

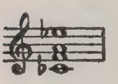
An augmented triad may be read in three ways: 

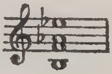
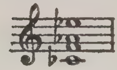
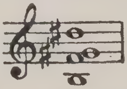
They belong to B min., B maj., G min., G maj., E♭ min. and E♭ maj. respectively. When we take into consideration the many other progressions possible within these tonalities and, furthermore, that a resolution into the above mentioned triads does not necessarily mean that they represent tonics, but that they may represent triads in any tonality of which they form integral parts, their modulatory value becomes apparently almost limitless.

The altered V_7 may be read as follows: 

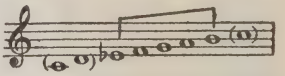
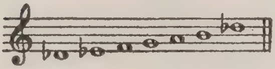
The chord belongs to A♭ maj. or A♭ min. and the enharmonic change makes it available as an $^{6}_{5}$ of the V key in G maj. and possibly in G min.

The chord  belongs to C maj. as $VII^{7}_{(5<)}$; as  it is $\begin{smallmatrix}6\\4\\3\end{smallmatrix}$ of the V key in A min. and A maj. or $\begin{smallmatrix}6\\4\\3\end{smallmatrix}(V^{7}_{5>})$ in E min. and E maj. If it is changed enharmonically to  it represents $VII^{7}_{5<}$ in F♯ maj. and if written

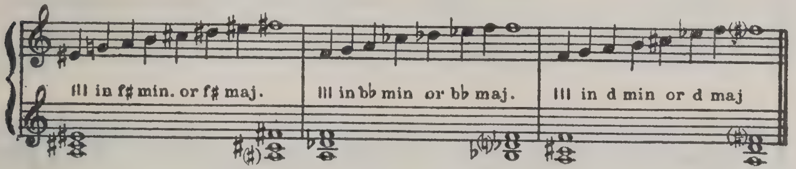
 it is $\substack{6\\4\\3}$ of V in E♭ min. and E♭ maj. and also $\substack{6\\4\\3}$ $(V^{7}_{(5>)})$ in B♭ min. and B♭ maj.

The altered VII°_{7} furnishes an equal number of possibilities. For instance:  is $VII^{\circ}_{7(5<)}$ in C min. and C maj. If written  it becomes II_{7} in E♭ min., $II^{7}_{5>}$ in E♭ maj., $VI^{7}_{1<}$ in A♭ min., and $VI^{7}_{5>}$ in A♭ maj. But this chord may also be found as  the G♯ to be considered a substitute tone for A. It then becomes available as $\substack{6\\4\\3}$ of V in A min. and A maj. and also as $\substack{6\\4\\3}$ in E maj. and E min.

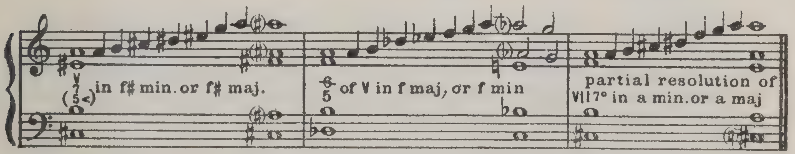
Surely, these harmonies present almost infinite possibilities. Some of them possess another most valuable quality: they furnish the harmonic background for those compositions which are founded on the whole-tone scale. Debussy must be credited with having practically exhausted those possibilities, and composers who have followed his leadership can only be considered imitators. There is no doubt that the exploitation of these new colors has provided enchanting and effective ingredients for the harmonic palette of every modern composer and, considered from that viewpoint, their value is undeniably great. But as the sole means of musical expression these effects soon become tiresome because they are circumscribed and finite, while the diatonic system permits of almost infinite melodic embellishments, which at least seem to be inexhaustible. (See chapter on scales.)

The nucleus of the whole-tone scale is found in the melodic minor mode. To illustrate: 
All that is needed to complete the whole tone progression, is the addition of a whole step below E♭ and one above B, resulting in  (The diminished 3d in our tempered system is, considered melodically, only a whole step.) It is easily

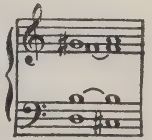
seen that the chords employing aug. 5ths furnish the natural harmonic basis for the whole-tone scale and the following examples will still further prove this.

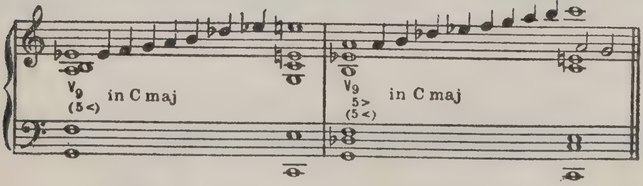

III in f♯ min. or f♯ maj.
III in b♭ min or b♭ maj.
III in d min or d maj

The aug. triads belong to F♯ min. or maj., B♭ min. or maj. and D min. or maj. respectively and the intervals of the scale must be written with this fact in mind as shown above.

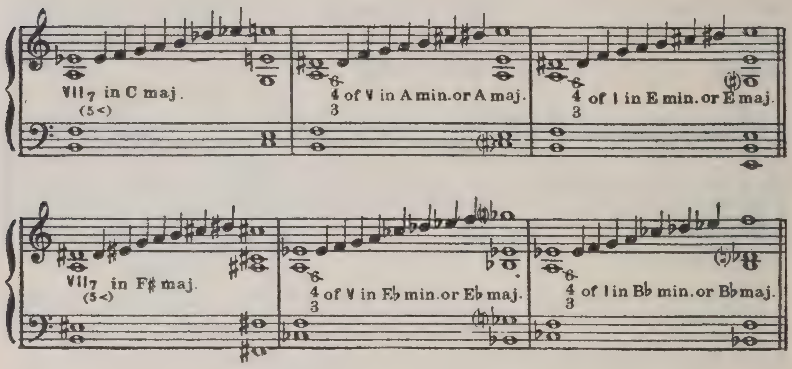

V 7 (5<) in f♯ min. or f♯ maj.
6 5 of V in f maj, or f min
partial resolution of VII7° in a min. or a maj

The V_7 with the tone of substitution in the above example permits of the series of whole steps belonging to F♯ min. or F♯ maj., the enharmonic change transforms it into an aug. $^6_5$ harmony of the V key of F maj. and possibly F min. and the last example is based on the assumption that the chord is a partially suspended resolution of the VII°_7 in A min. or A maj.



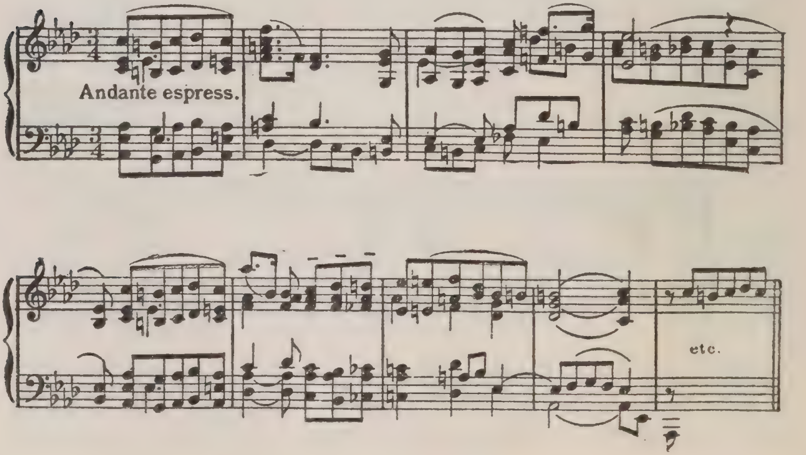

V9 (5<) in C maj
V9 5> (5<) in C maj

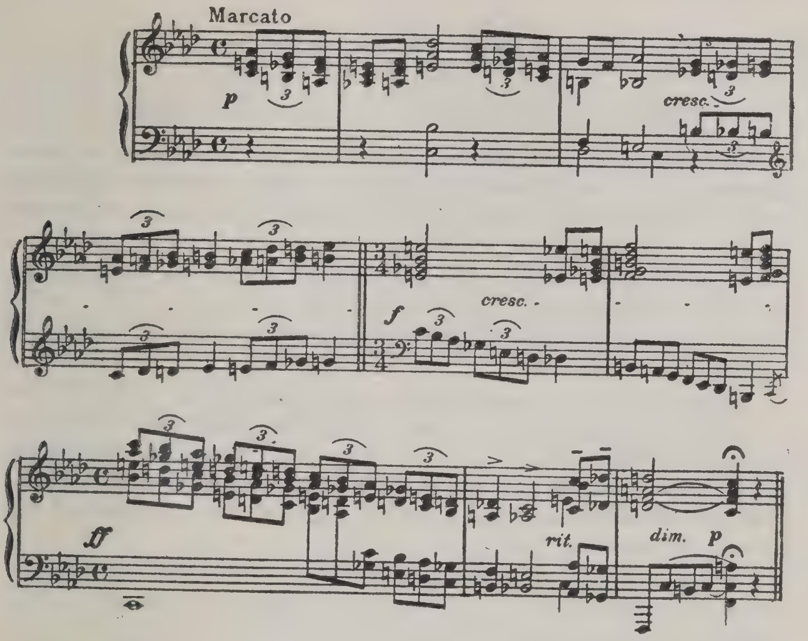
Here the V_9 of C maj. with E♭ as tone of substitution for D is used in the first example; the second shows the same harmony with the addition of the lowered 5th.


VII7 in C maj.
(5<)
6
4 of V in A min. or A maj.
3
6
4 of I in E min. or E maj.
3
VII7 in F♯ maj.
(5<)
6
4 of V in E♭ min. or E♭ maj.
3
6
4 of I in B♭ min. or B♭ maj.
3

The VII$^{7}_{(5<)}$ with its enharmonic possibilities is particularly rich in its various key colorings, as shown in these last examples.

These are practically all the harmonies on which the whole-tone scales are based. I have chosen the chords at random and it is rather needless to mention that they may be transposed into any existing key. It must not be forgotten that the triads of resolution of the above harmonies may be members of any key in which they may occur, nor that the progressions of the above altered chords are not limited to those triads but they may be followed by anything dictated by the composer's fancy.


Andante espress.
etc.



These examples are instrumental. They are inserted as an incentive to the ambitious student to try to express himself in this style. The only rule which must be observed **uncompromisingly** concerns the relation of the bass to all other parts; this must be kept pure; no parallel octaves or fifths must be written, unless they merely "double" the bass tones for greater emphasis. (This matter was touched upon in the chapter on rules for four-part writing; reread it!)

Lesson: According to the above suggestions.

CHAPTER XVI

TRANSITION

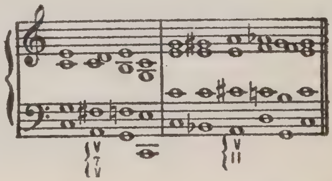
SECONDARY V FORMATIONS IN THE MAJOR TONALITY

Transition, or transitory modulation, results from the introduction of V formations belonging to the various major and minor triads which compose an established major or minor tonality.

The triads in a major tonality which permit the introduction of such V formations are: V, IV, II, VI, III, ($VI^{1>}_{5>}$, $III^{1>}_{5>}$, $VII_{1>}$,) the ones in parentheses being transferred from the parallel minor tonality.

The triads in a minor tonality which permit the introduction of such V formations are: V, ($V_{3>}$,) IV, ($IV_{3<}$,) VI, III, VII. Such triads as $VI^{1<}_{5<}$ and $III^{1<}_{5<}$ are too far removed from the tonality; in fact, as has been previously pointed out, they are the result of deferred resolutions, purely melodic in character and need not be considered here.

These secondary V formations, as they may be called, may be distinguished from those of the I proper inasmuch as the latter have little choice of progression, usually leading into the tonic, particularly in the cadences, while the former rather avoid the resolution into their tonics, progressing preferably into harmonies which are of similar character. The following chord progressions illustrate this clearly:



The first contains the V_7 of G major, but instead of being followed by the G major triad, which is its I, it progresses into the V^6_7 of the principal tonality. In the second example the A major triad is clearly the V of D minor, but as this is merely II, a IV formation, it may be followed by any IV formation, here by $II^7_{5>}$.

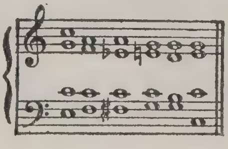
All these possible secondary V formations will be considered individually, beginning with—

THE V FORMATIONS OF THE V KEY

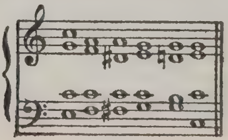
These in C major comprise the following harmonies: D-F♯-A, D-F♯-A-C, D-F♯-A-C-E, F♯-A-C-E, D-F♯-A-C-E♭, and F♯-A-C-E♭; all may occur with the substitutional tones for the 5th, i.e., instead of A, either B♭ or B♮ or A♯ may be used. The 5th may also be lowered, thus producing the aug. 6th formations mentioned in a previous chapter, the principal ones being reiterated in order to bring about an even more perfect understanding of their character and origin. They are: A♭-C-F♯, A♭-C-E♭-F♯, A♭-C-D-F♯, and A♭-C-E-F♯. The character of all these harmonies in the cadences is that of the intensified IV idea because they are naturally succeeded by V formations, but they may be introduced freely anywhere.

The best preceding chords are those possessing I character and also all the different varieties of IV formations. The least effective preceding chords, tho by no means excluded, are the V formations. Reversely, the best succeeding chords are the V formations, next in order the I and all IV formations: the last mentioned are simply modifications of the same character possessed by the V formations of the V. The dominant triad of V has the greatest freedom of leading because it is not hampered by the considerations with which the 7th and 9th have to be treated as so-called dissonant tones. It is necessary to remind the student that he will find the VII°_{7} of V frequently written incorrectly, particularly where it is followed by chords containing the 3d of the major scale, but this should now no longer be puzzling.

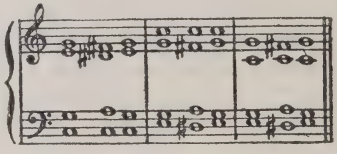
The correct way of writing the VII°_{7} of V is as follows:



The incorrect way, but one that is found very frequently, is:

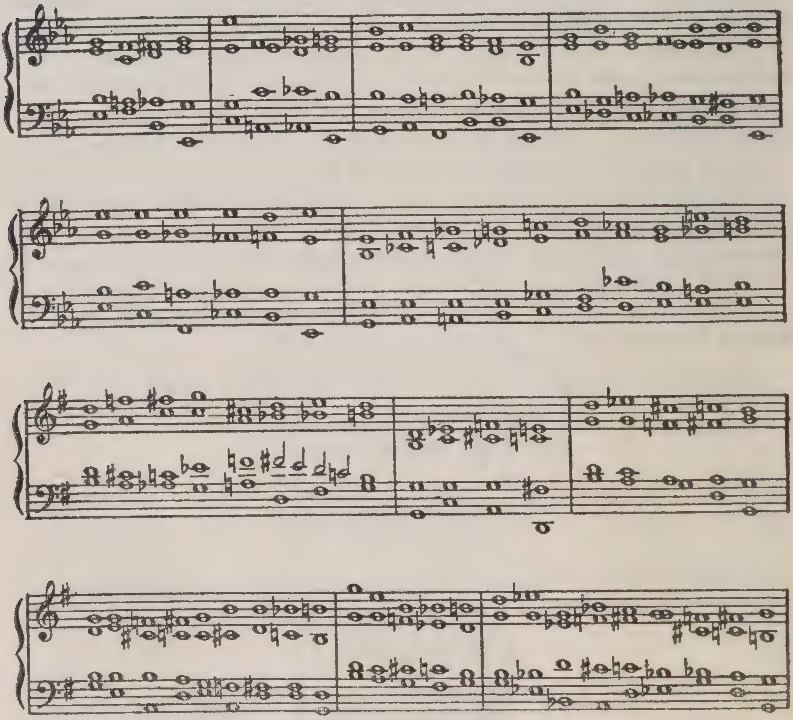


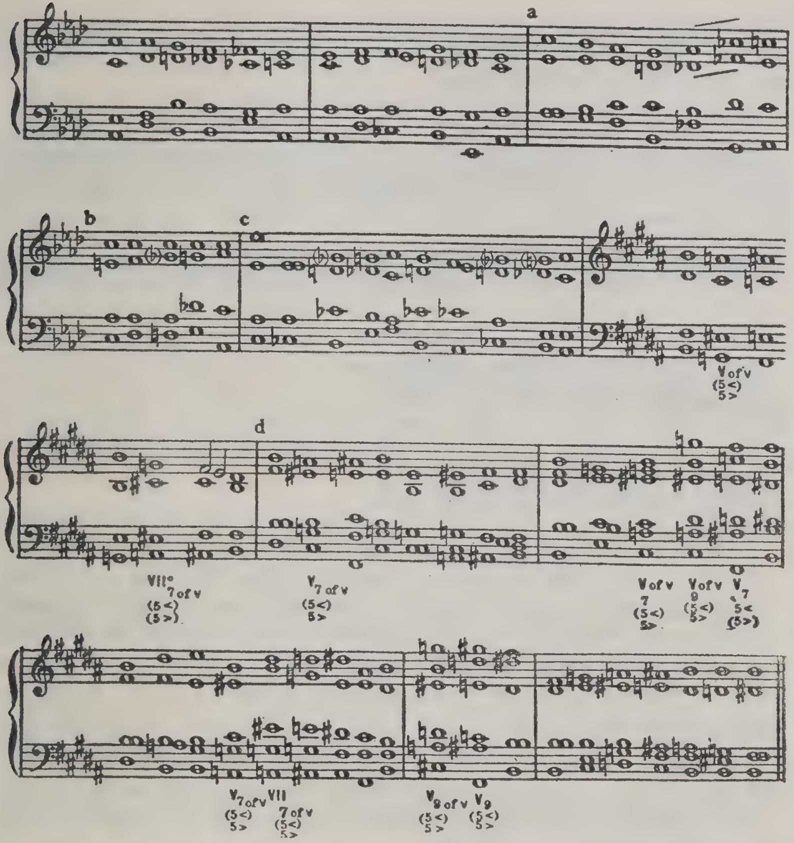
The only justification for writing the VII°_{7} as if its root were the raised 2d of the scale is found when it is used as a so-called changing harmony between the same positions of a I triad like:



The VII°_{7} is here merely a melodic embellishment of the I.

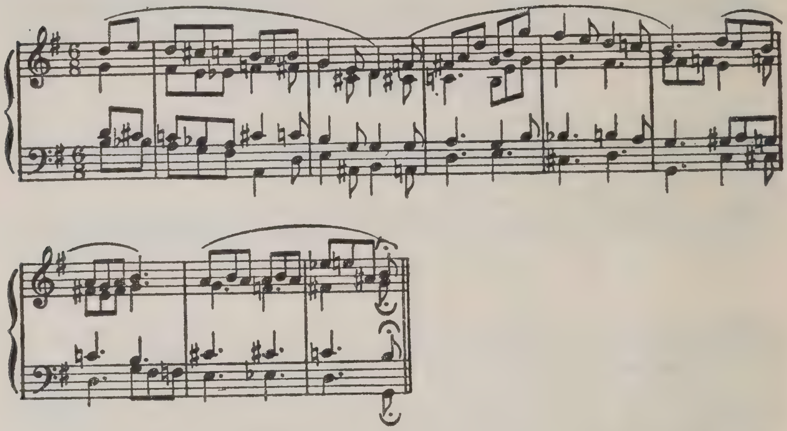
The following examples contain just a few of the manifold possibilities of the V formations of the V key.




a
b
c
V of V
(5<)
5>
VII°
7 of V
(5<)
(5>)
d
V7 of V
(5<)
5>
V of V
7
(5<)
5>
V of V
9
(5<)
5>
V7
5<
(5>)
V7 of V
(5<)
5>
VII
7 of V
(5<)
5>
V9 of V
(5<)
5>
V9
(5<)
5>

The examples in E♭ major contain specimens of all the V formations of V in unaltered form; these are, by far, the most frequently met with. Those in G major show the chords with the substitute tone in place of the 5th. The ones in A♭ major make use of the whole step above the 5th (the outgrowths of III and V^6_7). The 5ths in Ex. **a** are of no moment as the C♭ is an alteration. In examples **b** and **c** an optional ♭ is placed before G, which makes perhaps for smoother voice-leading, but the G♮ as substitute for F is the object of these illustrations. The five and six part writing in the B major examples is necessitated by simultaneous use of (5<) and 5> in V_7 of V, V_9 of V, VII_7 of V, $V_{9>}$ of V, and VII°_7 of V. These are rather far-fetched combinations;

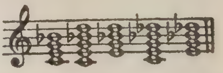
their value lies in the harmonic color effect to be obtained. Only the experienced student may attempt further illustrations of the last mentioned combinations.



Almost any little melodic thought lends itself to the introduction of the V formations of V somewhere, as is readily proven in the above example. Its character is that of a cradle or boat song with its rocking motion. Some substitutional tones for the 5ths of these chords are intentionally introduced, but could be dispensed with.

Lesson: As this series of chords is of considerable importance, the student should not be satisfied with writing just a few examples but should endeavor to treat the subject with the consideration it deserves.

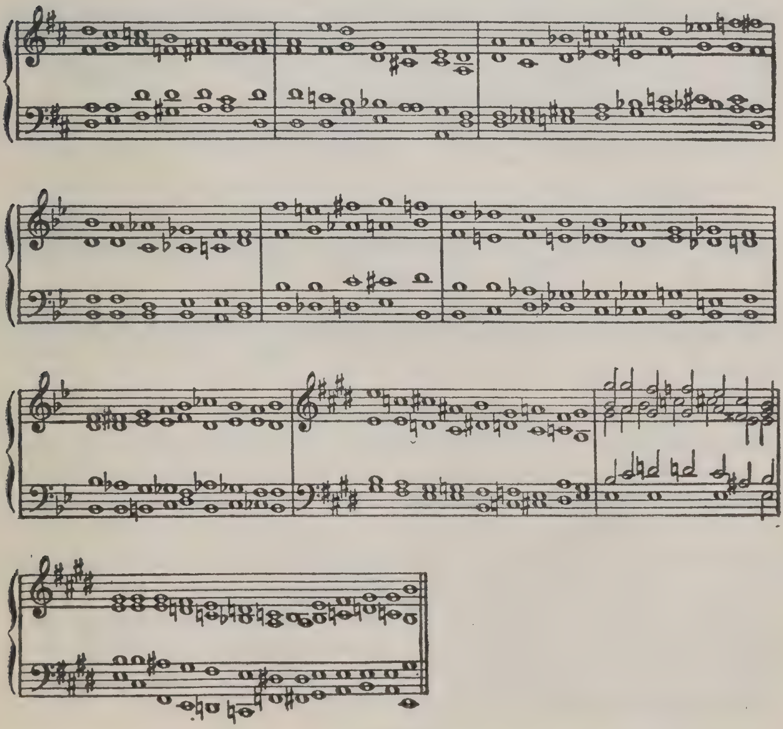
THE V FORMATION OF THE IV KEY

These chords are mostly old acquaintances, because they contain, as their principal interval, the lowered 7th of the scale, but they permit of a few combinations hitherto not mentioned. In the key of C major they comprise: 

As substitutional tones for G we may use A♭ or G♯ or A♮, but not G♭, as this would change them into aug. 6th formations of the V of the keys of B♭ major or minor or into those belonging to the I of F major or F minor; in other words the IV would lose its character as such and would become either a V or a I.

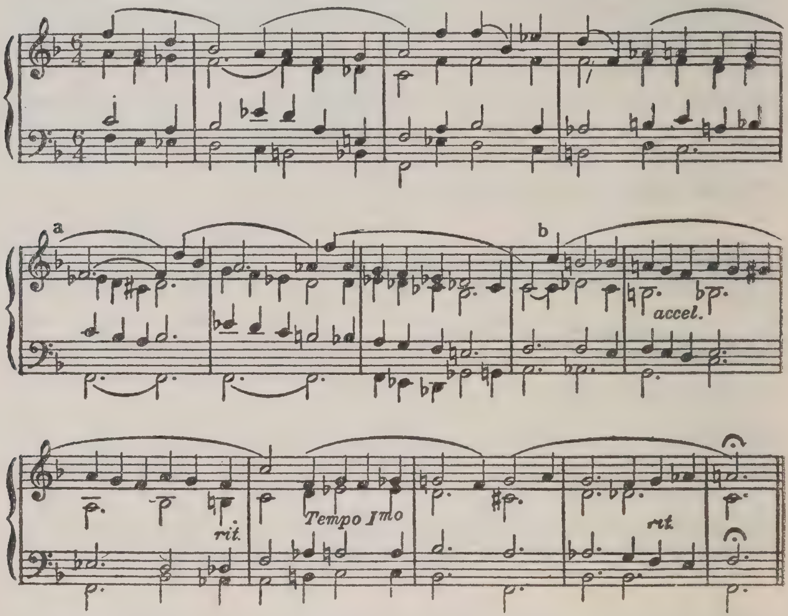
They are easily fitted into the tonality, preceded by any harmony, most naturally the V formations and the I, the latter being their fundamental chord.

The succeeding chords depend on the leading of the B♭, which moves either to A or A♭, sometimes to B♮, making possible the progression into any IV formation, including all the V formations of V and into some V formations of the key. The only chord excluded is, practically, the I, as such a progression would simply eliminate the most interesting interval (here the B♭) without any compensating sound effect. Due regard must also be paid to the leading of the 9th, which may occasionally limit the available succeeding harmonies; and the use of the substitutional tones may do likewise.



These examples illustrate some of the more unusual progressions, but all are interesting and none violate the demands of good taste. The last one, in E major, shows a progression of 9th chords which are to be analyzed V_9 of V, V_9 of IV, $VII^9_{1>}$, V_9 of N6 (a variant of an aug. 6, as A♯ might have been written instead of B♭).

The five-part example is necessitated by the use of $V^9_{(5<)}$ of IV; the crossing of voices produces better leading.

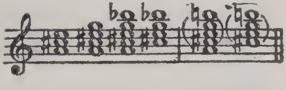


The V formations of IV lend themselves particularly well to the preparation of plagal endings, as proven in the example in six-four time. The first three measures must be regarded as a last phrase of some composition with an expected ending on the I, at the beginning of the fourth measure (a). Instead there is introduced the V_7 of IV, making an extension necessary, but even this phrase does not end satisfactorily and another phrase is added (b), the effect of which is an intensified desire for a more complete ending—which is finally accomplished by drawing still more decisively on the IV side of the key and its welcome plagal cadence.

Lesson: The student should center his attention on the more commonplace progressions of the various V formations of IV, illustrating these in the usual way.

THE V FORMATIONS OF II IN MAJOR

These in C major comprise the chords:



(The last two are seldom met with because the II is a minor triad and demands a minor 9th in its V. The only legitimate leading for B♮ would be either to C♯—superfluous, as the C♯ is already contained in the combination—or to B♭, which would then simply become a substitutional tone for the B♮. The VII_7 with B♮ may however be succeeded by V_7 in which case the B is held over, becoming the 3d of V_7. Instead of E, F may be used.)

The best preceding chords are naturally the IV formations of the key D minor, of which quite a few are available, even in the key of C major, because B♭, the most important interval of these subdominants, is also an important member of the key of C. But in case such chords are used, it becomes necessary to avoid the leading into the II triad, as such progression would constitute a complete cadence, thus establishing the key of D minor; which would be a "modulation" and no longer merely a "transition"—therefore outside the scope of this lesson.

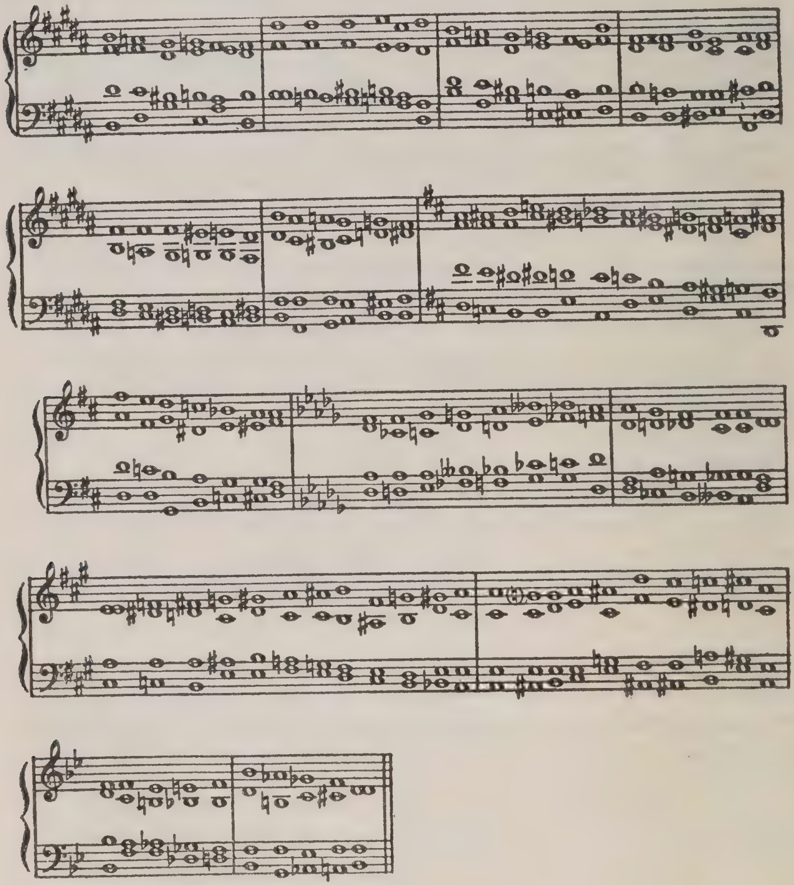
The preceding chords about to be enumerated are given in their dual character as parts of the tonalities of C major and D minor and to them the above advice refers. $I_{7>} = VII_7$ in D minor, $III^{7}_{5>} = II_7$, $V_{3>} = IV$, $V^{7}_{3>} = IV_7$, $III_{5>} = II$, $III^{1>}_{5>} = N6$, $III^{7}_{\substack{1> \\ 5>}} = N^{6}_{5}$, $VII_{1>} = VI$, $VII^{7}_{1>} = VI_7$, $VII^{7>}_{1>} = {}^{6}_{5}$ of V, $VII^{7}_{(5<)}$ of IV $= {}^{\substack{6 \\ 4}}_{3}$ of V.

But there are other preceding chords belonging more exclusively to C major such as I, $I_{7>}$, VI, VI_7, IV, V, V_7, VII_7, as well as some of the minor IV formations such as $IV_{3>}$, $II^{7}_{5>}$, N6, and even some of the V formations of V, including the aug. 6 formations of the V.

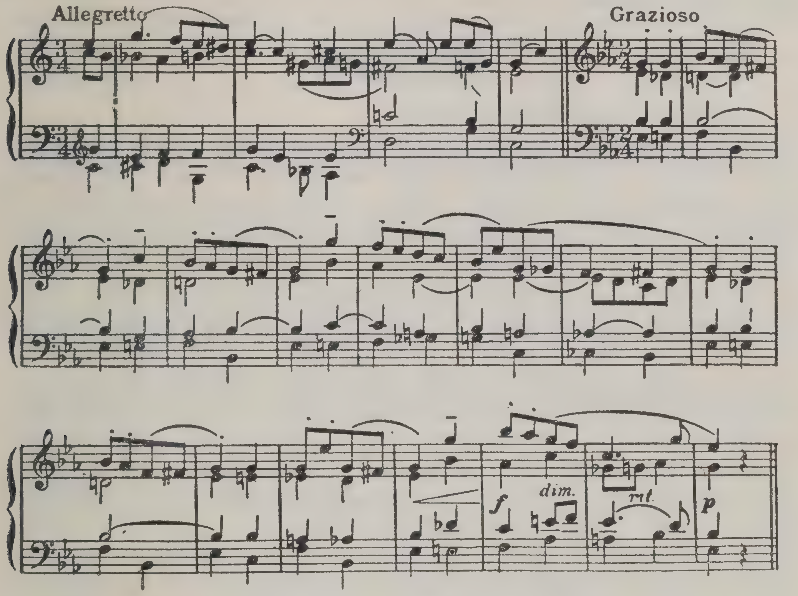
The succeeding chords comprise, besides the II, all IV formations of the key in unaltered and altered form, also all V formations of V, including their aug. 6th formations. The VII°_{7} of II is frequently led into V_7, and V_7 of II into V_7 or V_9 (with 3d omitted). These last mentioned progressions find an explanation in the fact that II is a part of V_9. (If V_7 of II is led into V_7

it is well to keep the 7th of the former below its root.) Other possible progressions are into VII_7, $VII_{1>}$, $VII^{7}_{1>}$, $VII^{7>}_{1>}$, VII°_{7}; all of these are chords which may readily be traced as harmonies belonging to the II key as $VI^{7}_{1<}$, VI, VI_7, $^{6}_{5}$ of V and VII°_{7} of V.

Only a few of the almost limitless possibilities are illustrated in the following examples.



At first hearing, these examples seem to contain almost an excess of chromatic leading, but this is unavoidable if the object, to illustrate as many progressions as possible in limited phrases, is to be attained.

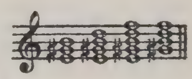


These little thoughts attempt to illustrate the more popular use of some of the V formations of II. The progressions contained therein are familiar to everyone. The C in the soprano, measure 3 of the E♭ major "tune", must not be considered as the root of V_9 of II; it is only a substitute for B♭, the harmony being really the VII°_7 of II. The exceptional leading of the 7th of V, in measure 8, is condoned on account of the phrase division, and the B♭ in the 14th measure, in the soprano, is an appoggiatura to A♭; otherwise the illustrations contain nothing which is unfamiliar to the student.

Lesson: As usual; but besides the written work it is always advisable to experiment with these chords in various keys at the piano.

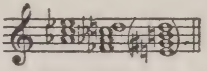
THE V FORMATIONS OF VI IN MAJOR

This set of chords also furnishes a most valuable addition to the harmonic colors of the tonality. They are closely related to the key, being the V formations of the relative minor system, and are about as frequently met with as any of the secondary V formations. In the key of C major they comprise the following combinations:



C may be used instead of B.

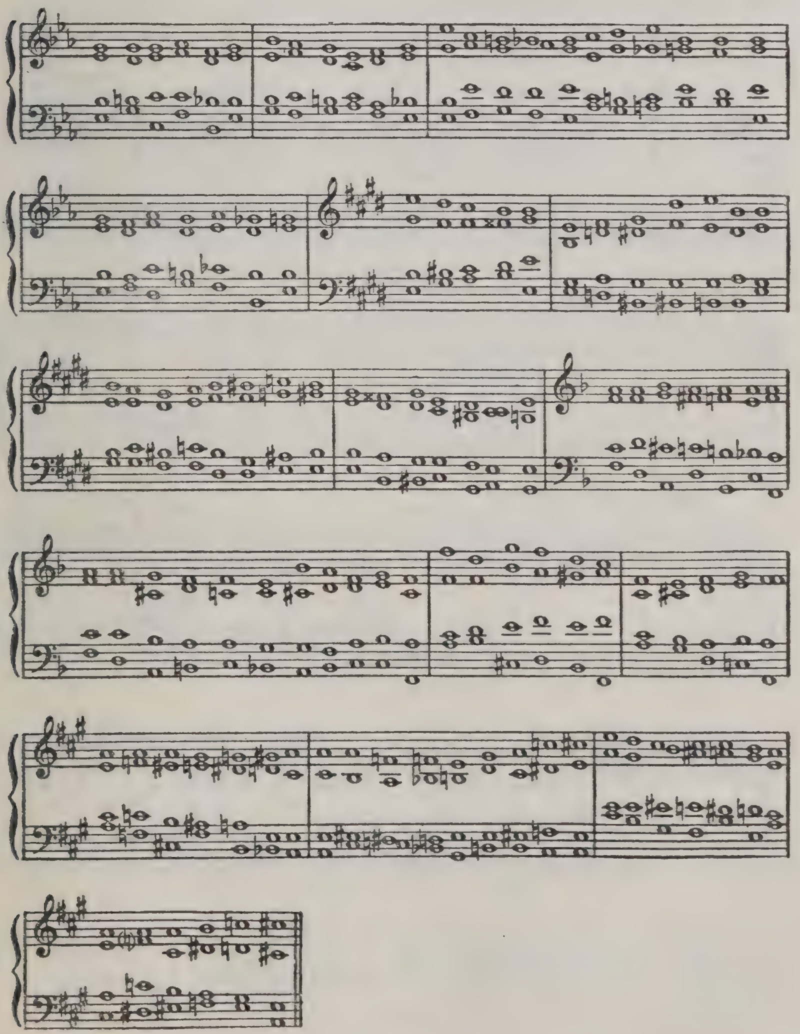
The preceding chords are principally those which are at the same time IV formations in the relative minor key; i. e., II, II_7, IV, IV_7, VII, VII_7, $VII_{1>}$, $VII^7_{1>}$. Where these are used it is best to avoid the progression into the VI, at least at the end of phrases, as such a succession constitutes a complete cadence, shifting the tonic idea to another basis; in other words, resulting in a modulation. Other preceding chords are furnished by VI, I, V, $V_{5<}$, V_7, $V^7_{5<}$. It is by no means impossible to use as preceding chords some of the altered IV formations, particularly $II^7_{5>}$, $VI^{1>}_{5>}$, even $VII^7_{(5<)}$, $VII^{\circ}_{7(5<)}$, $IV_{7>}$. If $II^7_{5>}$ precedes any of the V formations of VI, the 5> becomes, through enharmonic change, the 3d of these dominants. The relationship of $VI^{1>}_{5>}$ to V of VI is that of a major tonic to its $VI^{1>}_{5>}$, for instance, in C major the A♭ major triad is $VI^{1>}_{5>}$ and E major, the V of A minor, stands in relation of $VI^{1>}_{5>}$ to A♭ major, then usually written as an F♭ major triad; furthermore A♭ major as G♯ major is V of VI in E major. If $VI^{1>}_{5>}$ is followed by V_7 of VI the relationship is that of I followed by $\cancel{6}$ of its V.



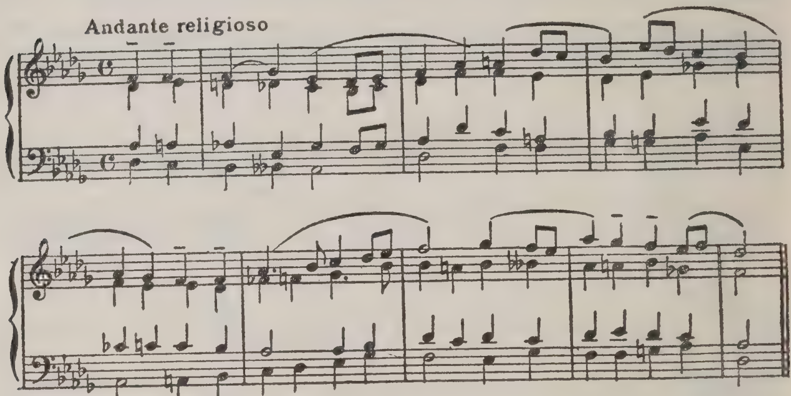
These explanations are given that the student may comprehend such apparently abstruse juxtapositions as A♭ major and E major in C major.

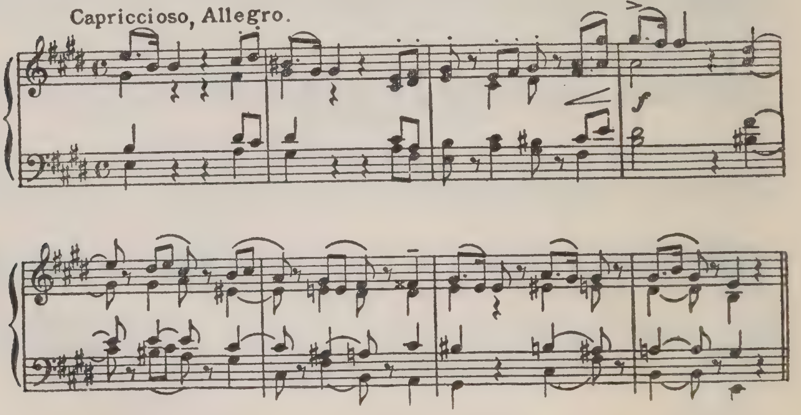
$VII^7_{(5<)}$ in major equals $\begin{smallmatrix}6\\4\\3\end{smallmatrix}$ of V in the submediant key and even $VII^{\circ}_{7(5<)}$ assumes this quality; $IV_{7>}$, through enharmonic change, becomes $\begin{smallmatrix}6\\5\end{smallmatrix}$ of V. These last named chords have the same strong tendency as the real subdominants to establish the VI as I, and are therefore subject to the restrictions placed upon the latter as mentioned above.

The succeeding chords for V of VI and V_7 of VI are principally VI, IV, IV_7, sometimes V, V_7, I, $I_{7>}$, II, II_7, VII_7 and occasionally such altered chords as $II^7_{5>}$, $VI^{1>}_{5>}$, $IV_{3>}$ and $\begin{smallmatrix}6\\5\end{smallmatrix}$ of V—the latter making necessary the above mentioned enharmonic changes. V_9 of VI is succeeded by VI, IV_7, VII_7 of V, VII°_7 of V, but VII°_7 of VI, on account of its enharmonic with VII°_7 of I, can only be succeeded by VI, possibly by II or II_7. Every V formation of VI may at any time be followed by any V formation of II.



The student will discover in these examples many familiar progressions, but also some which are more or less abstruse. My object is to illustrate, at least occasionally, those progressions which are less common, leaving it to the student, who by now has become sufficiently proficient, to prove, by means of the given directions, the simpler ones.

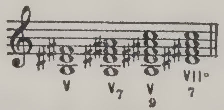




There is nothing puzzling in the longer illustrations, the analysis readily proving the simplicity of their structure.

Lesson: As usual.

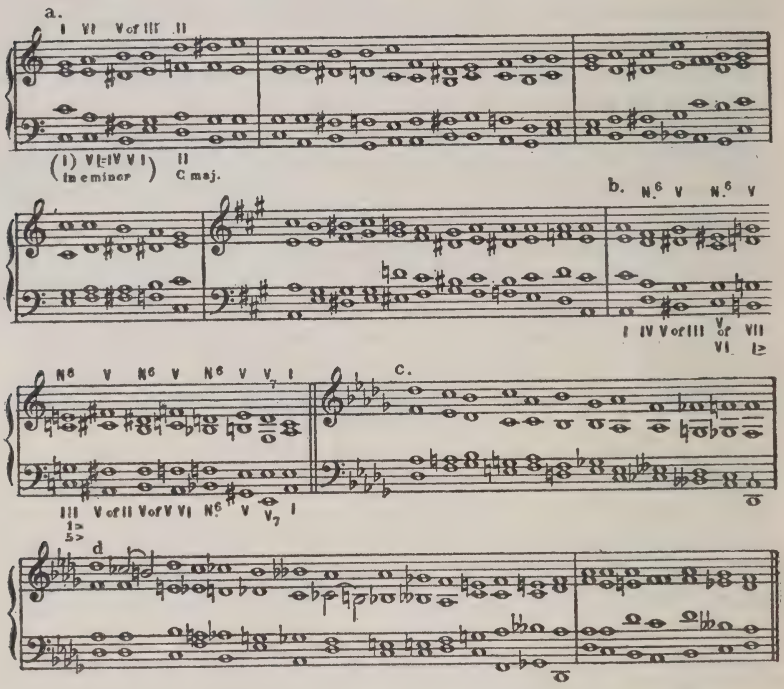
THE V FORMATIONS OF THE III IN MAJOR

So far all secondary V formations were founded on major triads or they were created by changing the secondary minor triads into major, by which alterations they became immediately V in character, permitting the extension into V_7 and V_9 harmonies. The V formations of the III are based on the leading-tone triad and, as this is a diminished chord, a double alteration—the raising of its 3d and 5th—becomes necessary in order to create that major triad which forms their basis. This accounts for the fact that they are really the furthest removed from the basic tonality. This also is the reason for their somewhat limited use. One might say that they overreach into a different key, in this case into that of the relative minor tonality, where their function is that of the V formations of the V key. The choice of the preceding harmonies particularly is based on this fact, as will be readily seen from the following illustrations. In the key of C major the V formations of III are:  (Again a substitutional tone may be used for F♯, here G.) If their character is really that of V of V in A minor, then they must be most effectively preceded by such harmonies as C major and A minor have in common. They are, in the key of C major: VI=I in A minor, VII = II, $VII_7 = II_7$, IV = VI, $IV_7 = VI_7$, II = IV, $II_7 = IV_7$. Other possible preceding chords are I, V, V_7, also V of V, V_7 of V, VII_7 of V, $I_{7>}$. The last two, however, tend to establish the E minor key too pronouncedly, being strong IV formations: II_7 and aug. $^{6}_{5}$ of V (through enharmonic change of B♭ to A♯), respectively.

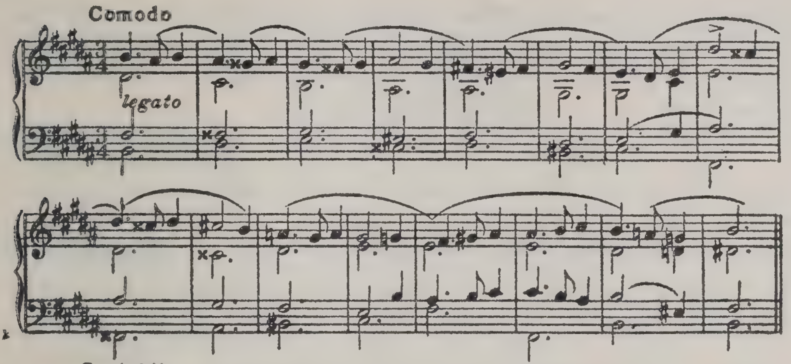
The choice of succeeding chords is based on the fact that the III is a V or I formation, but there are a number of other chords which must be included in this list. The following chords may succeed V and V_7 of III: III, V, V_7, V_9, VII_7, VII°_{7}, (all these V formations with substitutional tones for their 5th as well,) also I, I_7, $I_{7>}$, VI, VI_7, ($VI^{7}_{5>}$,) II, II_7, II^{7}_{5}.

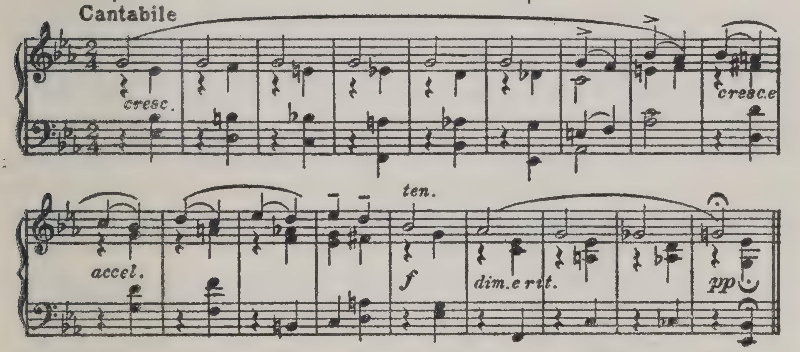
The V_9 of III is succeeded by III, I_7, $I_{7>}$, VII°_{7} of II.

The use of the VII°_{7} of III can only be justified if it is succeeded by III or possibly VI. It is the chord most frequently mistaken for the VII°_{7} of V, with which it is enharmonically identical. All the V formations of III may be succeeded by any of the V formations of VI, which were the subject of the last lesson.


a.
I VI V of III II
(I) VI=IV V I
in e minor
II
C maj.
b. N.6 V N.6 V
I IV V of III V of VI VII
N6 V N6 V N6 V V7 I
III V of II V of V VI N6 V V7 I
c.
d

Example **a** almost establishes the III key, if it were not followed immediately by a strong cadence in the key of C major. Double analysis is provided so that the student may study the progression from both viewpoints. Interesting, also, is the analysis of the progressions at **b**; the upper figuring treats every second chord as a N6, followed by a V, with a final cadence in the key of A major. Of course the fourth chord must be read enharmonically as the D♭ major triad and the 8th one as C♭ major. The sequences in example **c** are familiar progressions, those at **d** perhaps less so as they involve $V_{9>}$ chords; the change of the $I_{7>}$ into $^{6}_{5}$ has been explained before.



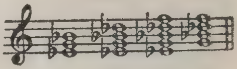


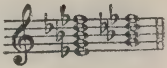
The soprano in the B major example employs "changing tones" which are purely melodic in character. In measure 10, the C♯ is a passing-tone, delaying the 9th of the chord; passing-tones are also found in the soprano and tenor in measures 13 and 14. The "feature" of the little E♭ major composition lies in the whimsical, almost obstinate, reiteration of the 3d of the scale, harmonized in constantly changing colors; yet all the chords used are harmonic elements of the principal tonality. It must be played according to the indicated expression marks.

Lesson: Short and long examples.

V FORMATIONS OF $\mathrm{VI}^{1>}_{5>}$ AND $\mathrm{III}^{1>}_{5>}$ IN MAJOR

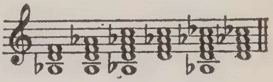
At the beginning of this chapter the fact was mentioned that even $\mathrm{VI}^{1>}_{5>}$, $\mathrm{III}^{1>}_{5>}$ and $\mathrm{VII}_{1>}$ might be introduced by their own V formations. These are rather far removed from the tonality but may nevertheless be used effectively and, furthermore, they are necessary links in the chain of harmonies which encompass any given tonic.

The V formations of $\mathrm{VI}^{1>}_{5>}$ in C major are 

and even such rather far-fetched combinations as 

The 5th again permits of the usual substitute tones. The preceding harmonies include $\mathrm{II}^{7}_{5>}$, V, V_{7}, I, $\mathrm{IV}_{3>}$, $\mathrm{VII}_{1>}$, $\mathrm{VII}^{7}_{1>}$. The succeeding harmonies are limited to $\mathrm{VI}^{1>}_{5>}$, $\mathrm{VI}^{7}_{\substack{1>\\5>}}$, $\not{6}$ of V, $\substack{\not{6}\\5}$ of V, $\substack{\not{6}\\4\\3}$ of V (these last three being based on the lowered 6th of the scale, the root of $\mathrm{VI}^{1>}_{5>}$) and some of the V formations of IV.

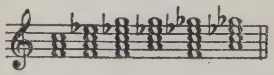
The V formations of $\mathrm{III}^{1>}_{5>}$ are based on the lowered 7th of the key and some of these have already been mentioned as altered chords taken from the parallel minor tonality. Their character as bona fide dominants is only apparent if they are really succeeded by chords based on the lowered 3d; i. e., by $\mathrm{III}^{1>}_{5>}$, $\mathrm{III}_{1>}$, $\mathrm{III}^{7}_{\substack{5\\1>}}$, $\mathrm{III}^{7}_{1>}$ or by any of the V formations of $\mathrm{VI}^{1>}_{5>}$. The preceding chords are IV, $\mathrm{IV}_{3>}$, $\mathrm{IV}_{7>}$, $\mathrm{IV}^{7>}_{3>}$, $\mathrm{VI}^{1>}_{5>}$, $\mathrm{IV}^{7}_{5>}$, I, $\mathrm{I}_{3>}$, V, V_{7} some of the V formations of V, even V and V_{7} of unaltered III, because they are $\mathrm{VI}^{1>}_{5>}$ or $\substack{\not{6}\\5}$ of V of $\mathrm{III}^{1>}_{5>}$, also V formations of II and others. The chords themselves in C major are:



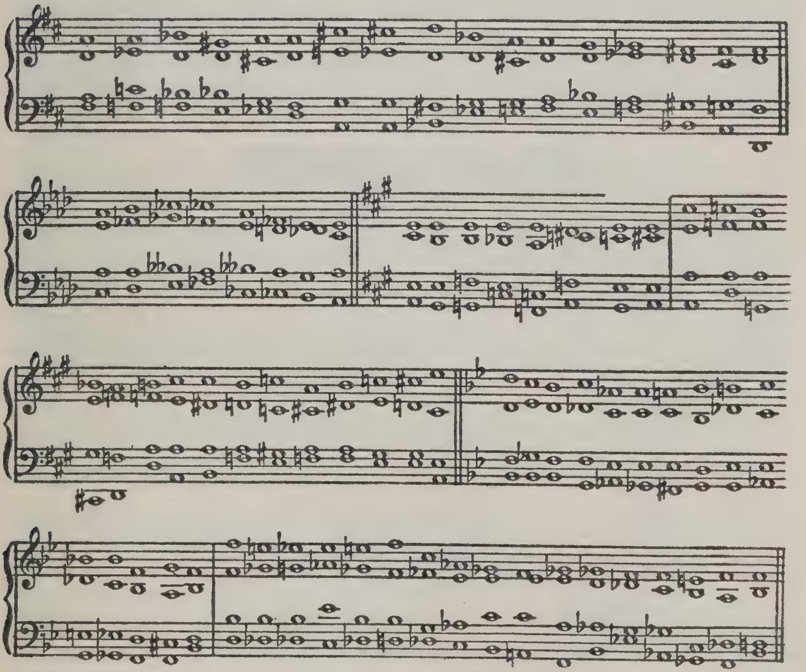
The greatest possibilities of progression are found in the first two, the others having little choice but resolution into $\mathrm{III}^{1>}_{5>}$. The usual tones of substitution may be used in place of the 5th, here either G, G♭ or F♯.

V FORMATIONS OF $\mathrm{VII}_{1>}$ IN MAJOR

Even $\mathrm{VII}_{1>}$ may be introduced by dominants of its own. These are built on the subdominant of the key, and all of them, except $\mathrm{V}_{9>}$ and the VII°_{7} have been treated previously as altered IV formations and their V character is evidenced only if succeeded by chords formed on the lowered 7th of the scale. These then are the V formations of $VII_{1>}$ in C major:



Again it is possible to use in place of C either D, D♭ or C♯. The preceding chords: I, $I_{3>}$, $I_{5<}$, $I_{7>}$, $I^{7>}_{5<}$, VI, $VI_{1>}$, $VI^{1>}_{5>}$, sometimes even V, and various formations of V, in unaltered and altered forms. The succeeding chords are, if the V character of these harmonies is to be made convincing, limited to $VII_{1>}$ and all V formations of $III^{1>}_{5>}$.



These few examples contain illustrations of most of the V formations of $VI^{1>}_{5>}$, $III^{1>}_{5>}$, and $VII_{1>}$. They supply rather unusual colors to the tonality and are well worth further investigation on the part of the student.

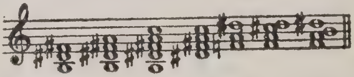
The **Lesson** to be prepared should include, besides some more short examples, also a few settings of melodies illustrating some of the possibilities of the above mentioned harmonies.

SECONDARY V FORMATIONS IN THE MINOR TONALITY

The triads in minor which permit the introduction of their own dominants are those built on V, IV, III, VI, VII, and N6. Triads which are the result of chromatic passing-tones, such as $\mathrm{VI}^{1<}_{5<}$, $\mathrm{III}^{1<}_{5<}$, $\mathrm{II}_{5<}$, need not be considered as independent chords within the tonality and, while possible, they are nevertheless too far removed, particularly if preceded by their own V formations to be conceived by the musical ear as integral parts of an established key.

THE V FORMATIONS OF THE DOMINANT KEY

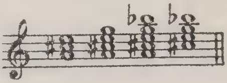
The V formations of the V key in A minor are:



Instead of F♯, G♯ or G♮ may be used. The chords are readily fitted into the key, preceded by any harmony contained in that tonality, principally by various IV and I formations. The succeeding chords include every form of V, most of the chords having IV character, and I. They are particularly valuable in the cadence if they are succeeded by I^{6}_{4}.

THE V FORMATIONS OF IV IN THE MINOR KEY

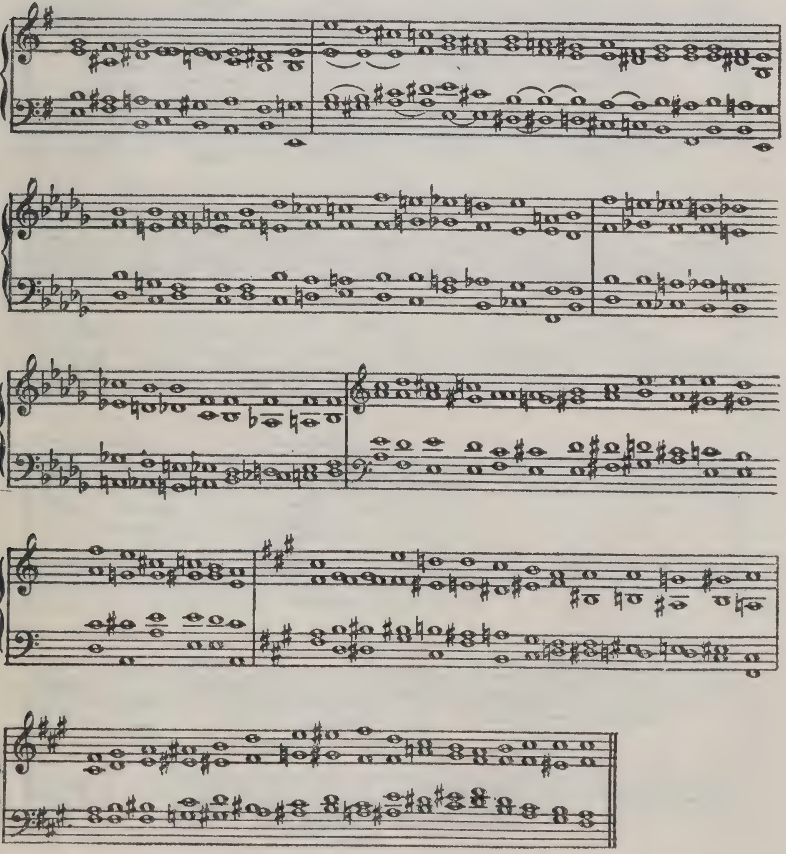
The chords in the key of A minor consist of the following combinations:



Instead of E, F may be used and it is not impossible to use F♯ as the tone of substitution, as the IV formation, while based principally on a minor triad, may well occur with a raised 3d. The student is already familiar with the first two chords and the last two present no new difficulties. All of them are naturally preceded by the V or I formations but not one chord of any character, belonging to the tonality, is excluded.

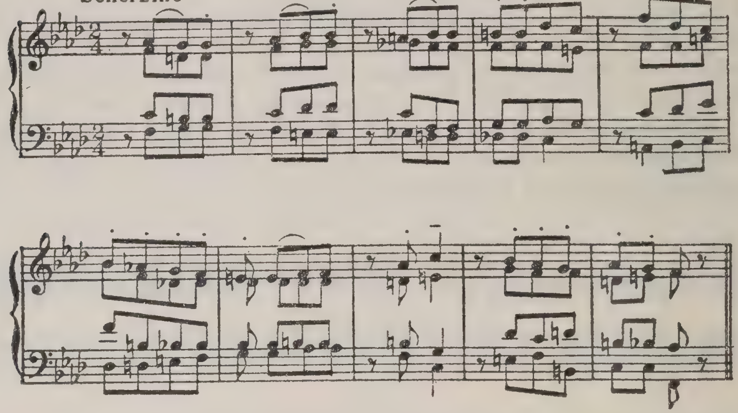
The succeeding chords for the V and V_7 of IV are: all IV formations including the aug. 6th chords of V, also V formations.

V_9 of IV has a limited number of succeeding chords; they are: IV, (IV_7,) II_7 (=$\text{VI}_{7<}$ in the IV key), N^6_5, $\text{IV}^7_{3<}$, VII°_7 of V, $^6_5$ of V, possibly V_7. Still more limited are the chords which may follow VII°_7 of IV: they are restricted to IV, VII°_7 of V, $^6_5$ of V, and V_7. If this last progression takes place, the chord is quite frequently written with A♯ instead of B♭, forming a VII°_7 of II, which, as previously explained, is seldom justified. N6 is also a good succeeding harmony. The following examples combine the possibilities of V of V, and V of IV formations.

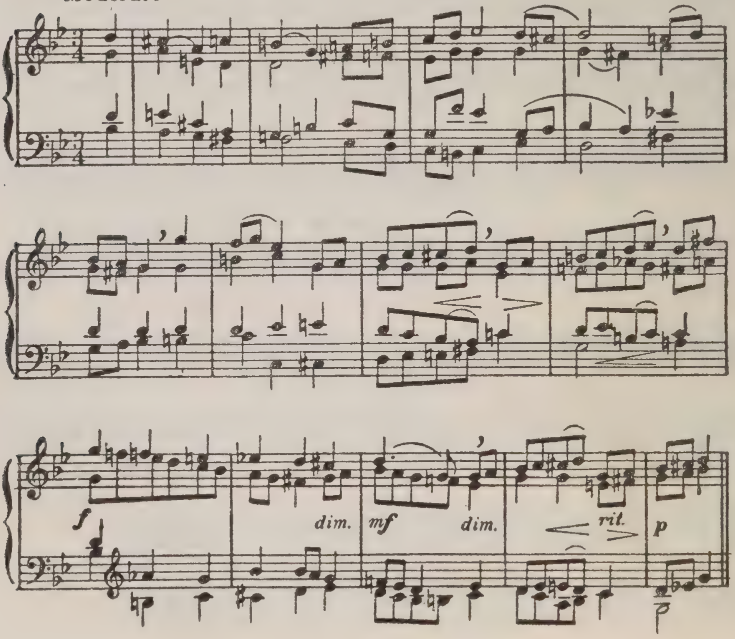


The analysis will show that the harmonies in question are introduced as the voice-leading demanded, without regard to the order in which they were mentioned in the text.

Scherzino



Moderato

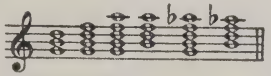


The last measure of the Scherzino contains a pedal-point effect: VII°_{7} of V above the root of V, a well-known device. In measure 6 of the little composition in $\frac{3}{4}$ time a similar effect is made use of; it is that of a delayed resolution of the V_7 of IV, while the bass sounds the root of IV. The use of an occasional passing-tone should no longer perplex an intelligent student.

Lesson: Combine in short and long examples some of the possibilities of the V formations of V and of IV in minor keys.

THE V FORMATIONS OF III IN MINOR

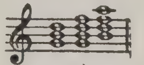
They consist of the following combinations:



Instead of D, either E or D♯ may be used. An E♭ as substitute tone is rarely justified because D♯ is much more closely connected with the tonality than E♭, and only in the last two harmonies may the latter find a legitimate place.

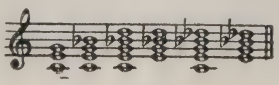
The preceding chords are naturally those which precede the V formations of the C major key but which are, at the same time, contained in A minor. The student must figure out the respective relationships to C major in these chords: IV, IV_7, VI, VI_7, I, I_7, $\text{IV}_{3<}$, $\text{IV}^{7}_{3<}$, $\text{VI}^{7}_{1<}$. Other available chords are: III, V, V_7, V of V, V_7 of V, $^{6}_{5}$ of V, possibly N6 and N^{6}_{5}.

The succeeding chords are confined to III, III_7, $\text{III}_{5<}$, $\text{III}^{7}_{5<}$, and any V formations of VI (chords which will be explained further on).

The chords  possess, of course, much greater possibilities of progression than just specified, but they then lose their character as V formations of III and revert to their true character as VII, VII_7, and II_7 of the basic tonality.

THE V FORMATIONS OF VI IN MINOR

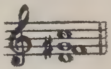
The V formations of VI in A minor comprise:

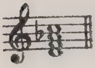


Again G♯ or A may be used in place of G; only the last two permit of the substitute tone A♭ for the same reason as the use of E♭ mentioned with the V formations of III.

The chords which may precede these harmonies are, first of all, the various dominants of III, also I, V, V$_7$, VI, IV, V$_7$ of N6 (see $^6_5$ of V), some of the V formations of IV, as well as of V.

The succeeding chords are: VI, VI$_7$, VI$^7_{1<}$, $^6_5$ of V, VII$^\circ_7$ of V; the first two may also be followed by V formations of IV, and progression into VII$^\circ_{7(5<)}$ is possible for the second and third chords on account of enharmonic conception:

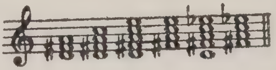


 VII$^\circ_7$ of VI has no choice but to move into VI.

V FORMATIONS OF VII, THE SUBTONIC, IN MINOR

These are built on the IV formations with raised 3d and are therefore rather far removed from the tonality. As a matter of fact, the feeling of a complete modulation can only be avoided if VII is immediately followed by chords which are strongly connected with the principal key. (See lesson on VII in minor.)

The V formations of VII comprise the following chords:



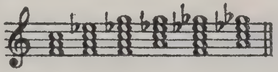
Either B♭ or B♮ may be used in place of A, but not A♯, as B♭ is much closer related to A minor than B♭.

They may be introduced by these preceding chords: I, I$_7$ VI, VI$_7$, IV, IV$_7$, III, III$_7$; possibly by II$_7$ or N6.

The succeeding chords are restricted to VII, VII$_7$, and all V formations of III. There are, of course, many more, but those are based on the assumption that these chords are really altered IV formations; they have V character only if succeeded as mentioned above.

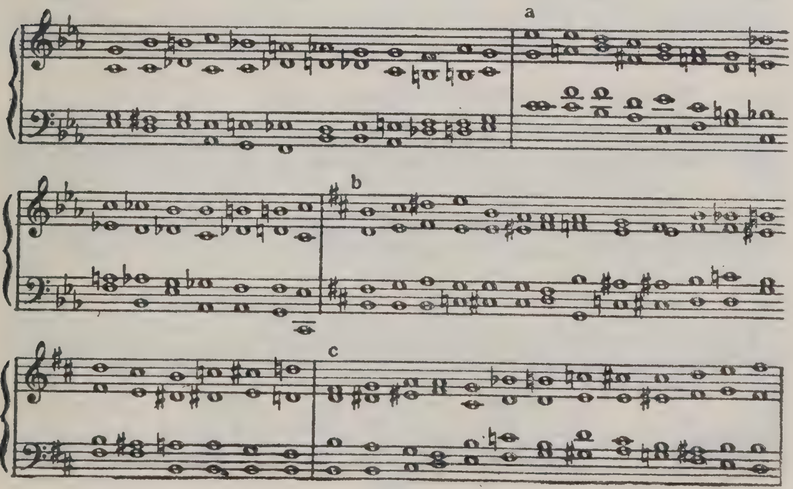
V FORMATIONS OF THE NEAPOLITAN SIXTH CHORD

There is no doubt that even the N6 triad may be introduced by V formations of its own. First of all, VI is its real V and by enharmonic change the $^6_5$ of V acts as its V$_7$; to these may well be added the V_9, VII_7, $V_{9>}$ and VII°_{7}. If this is done in the key of A minor the following chords have to be considered:

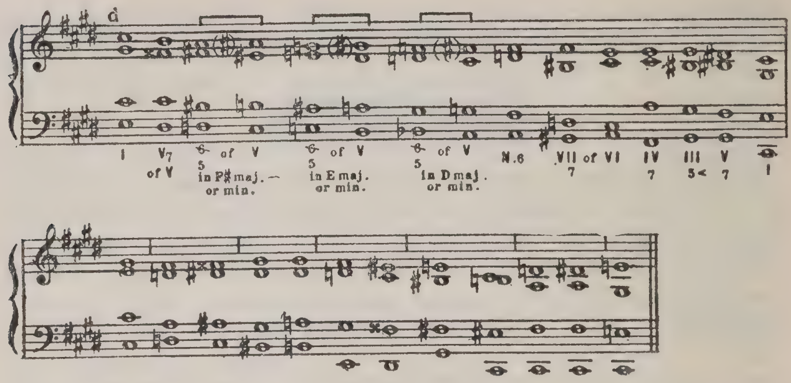


C♯ or D (or D♭ for the last two chords) may be used in place of C. Again it should be noted that these harmonies are very far removed from the key of A minor and that they constitute practically the last resources of that tonality. They are best preceded by V formations of VI, also by I, V_7, V_9, IV, II_7, even by $IV_{3<}$, $IV^{7}_{3<}$. The succeeding chords besides N6 and N^{6}_{5} are $^{6}_{5}$ of I, II_7, and if E♭ is reconsidered as D♯ and, in the last chord, the G♭ is changed to F♯ they become V formations of V. In other words, the 2d, 3d and 4th chords may be analyzed as aug. 6ths—and as extensions of the aug. 6th formations of V; as such, the succeeding chords may include any V formation of the key.

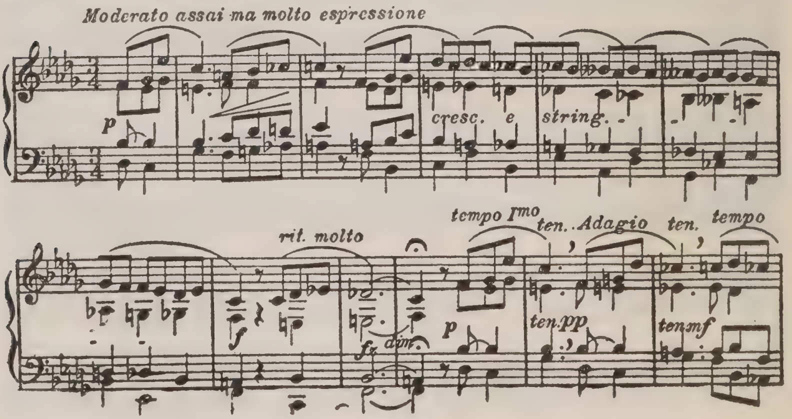
The following examples contain illustrations of the V formations of III, VI, VII and N6. No attempt at systematic treatment has been made, as the possibilities are too manifold and the voice-leading has been considered the principal factor in determining the progressions.

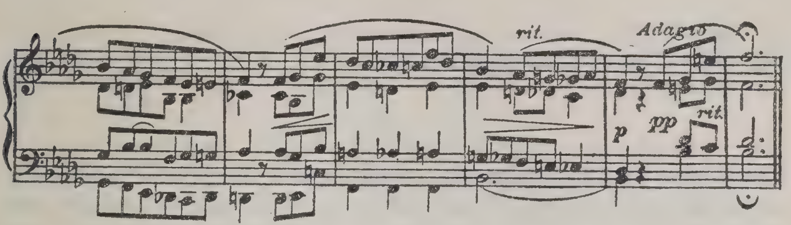


d


I
V7 of V
6 5 of V in F♯ maj.— or min.
6 5 of V in E maj. or min.
6 5 of V in D maj. or min.
N.6
VII 7 of VI
IV 7
III 5<
V 7
I

Sequences are almost unavoidable where the illustrations demand V formations of every triad contained in the tonality; all the more so if we consider that each step of the scale may be treated as the root of one of these V formations. The example at **a** contains a series of $V_{9>}$ each followed by V_7; those at **b** and **c** show the use of substitute tones for the 5th of these dominants. The progressions in example **d** are rather interesting, as each one of the bracketed progressions, if followed by its tonic (in this case either F♯ major or minor, C major or minor or D major or minor), would produce the effect of a complete modulation. Each $\frac{6}{5}$ of V, acting as a IV formation, followed by V_7, produces the feeling of a cadence and only the avoidance of the I prevents a shifting of tonalities.


Moderato assai ma molto espressione
p
cresc. e
string.
rit. molto
f
fz dim.
p
tempo Imo
ten. Adagio
ten. pp
ten.
tempo
ten. mf



This composition in B♭ minor also contains some interesting sequences. From the third measure to the 2d beat of measure 5 they are regular, the progressions being those of $\mathbf{V_{9>}}$ to a $\mathbf{V_7}$, based on the root of the chord which should have furnished the basis for the triad of resolution of the $V_{9>}$ chords. The 2d chord in measure 5 is a V_7 of F♭ minor; it becomes, through an enharmonic change of the B♭♭ to A♮, an $^{6}_{5}$ of the I in B♭ minor ($VII^{\circ}_{7\,(5<)}$), followed logically by the unaltered V_9 (or V_7, the 9th being little more than a melodic tone) of the key. The reiterated half cadence in measures 7 and 8 is made more emphatic by the pedal-tone effect of the F in the bass, with the superstructure of the VII°_{7} of V acting as a suspension. Melodic tones will also be found in the soprano of measures 7 and 15, the E♭ and A♭ being tones of substitution for the 9th of V and the 5th of II_7 respectively.

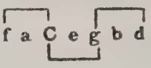
Lesson: Do not neglect the careful analysis of the above examples. Make certain that you are able to "hear" them correctly by playing them on the piano. Write similar exercises.

Retrospection: The foregoing chapter finishes the study of harmonic material contained within a given tonality. In looking back over the work accomplished, a resumé of the general plan will tend to prove the logic of the different steps taken in its development.

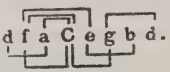
The tonic is the central point around which the world of harmonic color revolves. It has its planets with their satellites, like the solar system. The law of attraction to the tonic governs the calculation of relationship in regard to distance. The three paramount principles of sound-effect are those of I, V, and IV. They, in their purity as triads, form the foundation of the tonality; every other sound-effect being a variant of these principles.

To begin with, the most intimate relationships, that of the

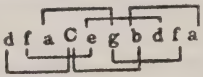
V, the chord a 5th above, to the tonic, and that of I to IV, a 5th below, received our attention.



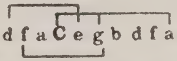
Then after the rudiments of four-part writing had been mastered the so-called secondary triads were introduced, their relationship, often of dual character, to the three principals were determined by the number of tones in common:



The V_7, the moving power of the musical universe, preceded the secondary triads in order of study on account of its elementary power, not possessed by any other combination of tones. The chord itself was the result of the extension of the V triad by a 3d. This furnished the precedent for the extension of **every** triad, thus creating the secondary 7th chords.



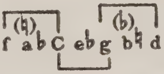
A further extension of the V_7 by a 3d produced the V_9 and, likewise, a 3d was added to some of the secondary 7th chords, resulting in the creation of other 9th chords, the ones of greatest importance being founded on IV and II.



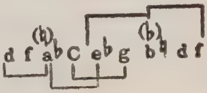
Other possible 9th chords of no cadential value were mentioned as melodic combinations.

The minor tonality, while artificial in its construction, was treated on the same principles as the major key, the various forms of the scale furnishing the intervals for different harmonies, thus providing really more interesting harmonic coloring, than the major.

Principal triads:

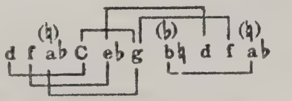


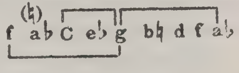
Secondary triads:



The justification of the major V and the major V_7 rested on their elementary power, making their use in minor as compelling as in major.

The secondary 7th chords were constructed in the same manner as in major, but again a greater variety resulted from the use of the intervals peculiar to the various forms of the scale.



The harmonic 9th chords were still more limited than in major, consisting of V_9 and IV_9, 

all others being considered as purely melodic formations.

The next step brought us the introduction of altered tones in the major key. It was proven that the nearest related keys in our modern system were the major and minor tonalities on the same I. In C major the following intervals taken from C minor were introduced: A♭ (the 6>), B♭ (the 7>), and E♭ (the 3>). These alterations were applied to every harmony with which we had become acquainted—triads, sevenths, and ninth chords. The major formations in minor had been largely dealt with on account of the variable construction of the minor scale and only the 3< was really new.

The succeeding lessons brought other altered chords; the N6 and N^6_5 and the various chords described as aug. 6th formations of the V and the I, and finally the chords with 5< or substitutional tones.

The $\not{6}$ formations of the V, being really altered V formations of the V key, suggested the introduction of the V formations belonging to the various major and minor triads which were found in the major and minor tonalities. This was called Transition; thus was completed the harmonic material met with in any given key.

We find ourselves now on the threshold of one of the most important parts of the tonal edifice—the changing of tonalities, creating new centers, or in other words: the next chapter will deal with modulation.

CHAPTER XVII

MODULATION

To modulate is to shift the key-center.

The key-center is that tonic which has been built up with tonal material, the comprehension of which has occupied the study of all the previous chapters.

A new key-center can be recognized only if it is surrounded by harmonies which, in their juxtaposition, produce the effect of a possible point of repose or, in other words, a new tonic.

A tonic, as such, is proven by the presence of chords which stand in subdominant and dominant relation to it. The analysis of the Harmonic Material (which has been our aim from the beginning of its study) has invariably established the IV or V or I characteristics of all tone-combinations. This then is the inevitable conclusion: A tonic can be established only by means of a complete cadence—the latter consisting of representative IV and V and I harmonies. The least important is really the tonic itself, because if IV and V formations are proven, the I becomes inevitable—whether it is sounded or not.

Modulation provides the composer with material which still further enhances the possibilities of musical expression. In itself, it is no more important than the transitional V formations which occupied our attention in the last chapter. It is a psychological fact that the truly musical mind will accept as a key only that tonality in which the composer gives utterance to the first conceivable musical idea, which is usually called The Theme; and no matter how far afield he wanders in his search for new colors—how many tonalities may be established within the musical form through which he expresses himself—the human mind craves for a return of that first tonality which alone can bring about a satisfying ending. And this craving is by no means the result of education, it is ever present—consciously or subconsciously—in the minds of those who have "learned to listen". Compositions which do not gratify this demand leave a feeling of unrest and dissatisfaction—which may, however, be the composer's object. And yet these exceptions are rare; they are confined mostly to those dual forms where music is merely used to emphasize various emotions, as for instance, in operas or similar forms of expression. Music, conceived for its own sake and not for any subsidiary purpose, generally heeds the demands of the human mind for repose by ending in that tonality which was expressed at the beginning.

Modulations are used for two distinct purposes. The first is for the rounding out of musical form and the second for additional tonal colors. The former is perhaps of lesser importance because it is limited. The limits are established through certain key-relationships which have been recognized ever since definite forms for the expression of musical thought came into existence. Key-relationship is based on the fact that a return to the established tonic must be made inevitable —hence the most frequent modulations into the key of the dominant, which imperatively demands a return to the tonic key. The proof of this truth is so easily established by analysis of the music written since Bach's time, including present-day compositions, that I shall refrain from writing examples.

The keys which may be drawn upon for the conclusion of the first part of a composition written in simple dance or song form are the following: If the composition begins in a major key it may modulate into the keys based on V, or III, or V of VI, sometimes into VI; all these permit of a ready return into the I; hence the more or less conventional "repeat-marks" at the end of a so-called "first part". Other keys, closely enough related to the tonic, yet which do not readily lend themselves to the return into the tonic are based on IV, or $III^{1>}_{5>}$, or $VI^{1>}_{5>}$, or $IV_{3>}$.

If the composition begins in a minor key the most readily accepted modulations take place into the major or minor V or into the III key (the relative major). Other possibilities are into VI or IV.

There are, of course, exceptions but, generally speaking, the above mentioned keys represent the rule.

Modulations for the purpose of color are unlimited and provide the composer with one of the most beautiful means at his command. The great and satisfying richness of the iridescent colors in our modern compositions is the result of unrestricted modulations and it is with these that we are chiefly concerned in this chapter.

It may as well be understood at the beginning that modulation, as such, does not depend on close or distant relationship—

it is no more difficult to connect keys represented by X and Y than to modulate from the tonic to the dominant key. The necessity of modulatory sound-colors must grow out of the melodic idea itself. It is altogether possible for such an idea to touch upon any number of keys, even tho its ultimate goal be only the dominant. To state the case more concretely, we shall assume that a composition in restricted form (dance or song form) begins in C major modulating after a certain number of measures into G major;—before arriving in the latter key the composer may have touched upon any number of keys demanded by the melodic line.

The simplest form of modulation is that in which a key is established by means of an added cadence. Such a cadence must contain IV and V formations.

The following lists contain most of the available combinations.

Subdominant formations in the major tonality are: IV, IV_7, IV_9, II, II_7, II_9, VI (VI_7 can only be heard as a I formation as it contains the complete I triad). If these are altered by the use of tones taken from the parallel minor key they become: $IV_{3>}$, $IV^{7}_{3>}$, $IV_{7>}$, $IV^{7>}_{3>}$, $IV^{9}_{3>}$, $IV^{9}_{7>}$, $IV^{9}_{\substack{7>\\3>}}$, $II_{5>}$, $II^{7}_{5>}$, $VI_{1>}$, $VI^{5>}_{1>}$. Further alterations produce N6 and N^{6}_{5}. Available are also VII°_{7} and VII_7 (but only if used in inversions followed by I^{6}_{4} or V formations in root position, because these chords are primarily V formations and are, at best, only weak substitutes for the IV.) (Reread the lessons dealing with these harmonies.) Strong IV formations are $VII^{\circ}_{\substack{7\\3>}}$ (which was mentioned as $^{\not 6}_{5}$ of the tonic key) and $VII^{7>}_{1>}$. The V formations of the V key also furnish strong IV elements. (Some theorists regard these harmonies as tone-combinations built on II with raised 3d—but, of course, the musical ear can only conceive them as V sounds.) They are: $\left\{\begin{matrix}V,\\V\end{matrix}\right.$ $\left\{\begin{matrix}V_7,\\V\end{matrix}\right.$ $\left\{\begin{matrix}V_9,\\V\end{matrix}\right.$ $\left\{\begin{matrix}VII_7,\\V\end{matrix}\right.$ $\left\{\begin{matrix}V_{9>},\\V\end{matrix}\right.$ $\left\{\begin{matrix}VII^{\circ}_{7}\\V\end{matrix}\right.$ and their alterations known as: $\left\{\begin{matrix}\not 6,\\V\end{matrix}\right.$ $\left\{\begin{matrix}^{\not 6}_{5},\\V\end{matrix}\right.$ $\left\{\begin{matrix}\substack{\not 6\\4\\3},\\V\end{matrix}\right.$ and that $\left\{\begin{matrix}^{\not 6}_{5}\\V\end{matrix}\right.$ which is the result of the altered $\left\{\begin{matrix}VII_7.\\V\end{matrix}\right.$

Many of the above named chords may be further altered by the use of raised fifth or the substitutional tone for this 5th, but the ones mentioned are sufficient for our purpose.

Subdominant formations in the minor tonality are: IV, IV_7, IV_9, II, II_7, VI, N6, N^6_5, VII°_7, $VII^7_{3>}$, $VII^7_{1>}$, $IV_{3<}$, $IV^7_{3<}$, $II_{5<}$, $II^7_{5<}$, $IV^9_{3<}$, $\begin{cases}V\\V\end{cases}$, $\begin{cases}V_7\\V\end{cases}$, $\begin{cases}V_9\\V\end{cases}$, $\begin{cases}VII^\circ_7\\V\end{cases}$, $\begin{cases}\not{6}\\V\end{cases}$, $\begin{cases}{\not{6}}\atop{5}\\V\end{cases}$, $\begin{cases}\not{6}\\4\\3\\V\end{cases}$.

An analysis of these chords shows that only a few IV formations altered by the use of the raised 6th of the scale are included. It is a fact that, even in the major tonality, the IV formations transplanted from the minor key are stronger than those found directly in the major key. This can only be accounted for on the ground that the ultimate desire is to establish the V, and whichever combination of tones accomplishes this most effectively must be given the preference. So for instance: IV formations in C major containing A♭ increase the desire for the V, as the A♭ leads inevitably to G, while the leading tendency of the A♮ is not nearly so insistent, the one being a half-step progression and the other a whole step. Therefore: the introduction of an A♮ in the subdominant formations of the C minor tonality weakens their character in the same ratio as the A♭ in the major key strengthens it.

Dominant formations in major are: V, V_7, V_9, VII_7, III, $V_{9>}$, VII°_7, all of which may be used with raised 5th or substutional tones, or lowered 5th—the latter resulting in the aug. 6 formations of the tonic key.

Dominant formations in minor are: V, V_7, V_9, VII°_7, $III_{5<}$ and their alterations by means of substitutional tones for the 5th or the use of the lowered 5th.

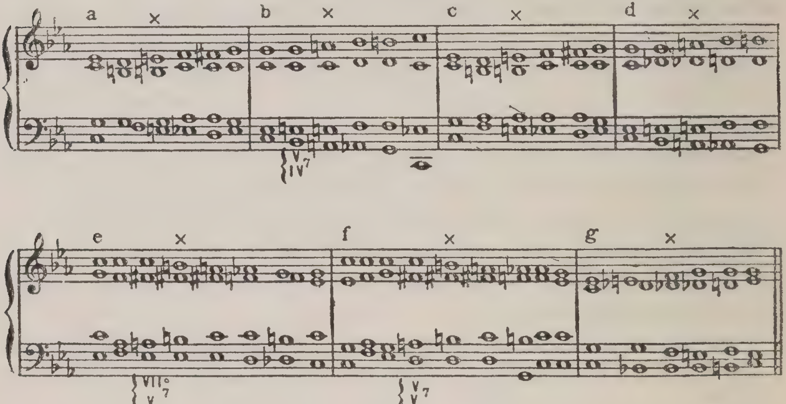
A most important factor in the cadences is, of course, I^6_4 as a suspension of a V formation. As a matter of fact, the nearer related keys, such as were mentioned for the "rounding out" of musical forms, are much more firmly established if the cadence contains the I^6_4 than if the IV formations are directly led into some V formations; and this is particularly true if the IV element is presented by V formations of V.

Keys most readily established by means of an added cadence are those which are represented by the various major and minor triads contained in the major and minor tonalities. These comprise in the major tonalities, those formed on V, IV, II, III, VI, $V_{3>}$, $IV_{3>}$, $III^{3>}_{5>}$, $VI^{3>}_{5>}$, $VII_{1>}$, $II^{1>}_{5>}$, (N6).

Further removed are those keys which are based on major triads which are the V formations of secondary triads: V of V, V of VI, V of II, V of III; even VII$_{5<}$ as a substitute for V of V, altho a minor triad, must be included.

In the minor tonality we find the following available triads: V, IV, III, VI, VII$_{1>}$, V$_{3>}$, N6, IV$_{3<}$, V of V and II$_{5<}$.

Theoretically, any triad found in the major tonality may be considered a part of the minor tonality, but the ear rejects many of these as integral parts, because they can only be accounted for as the accidental result of the use of passing-tones or delayed resolutions. The following examples will demonstrate this more clearly.

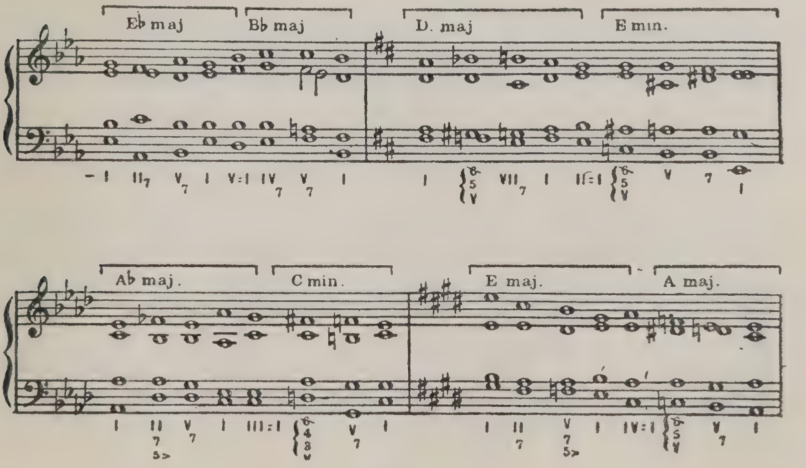


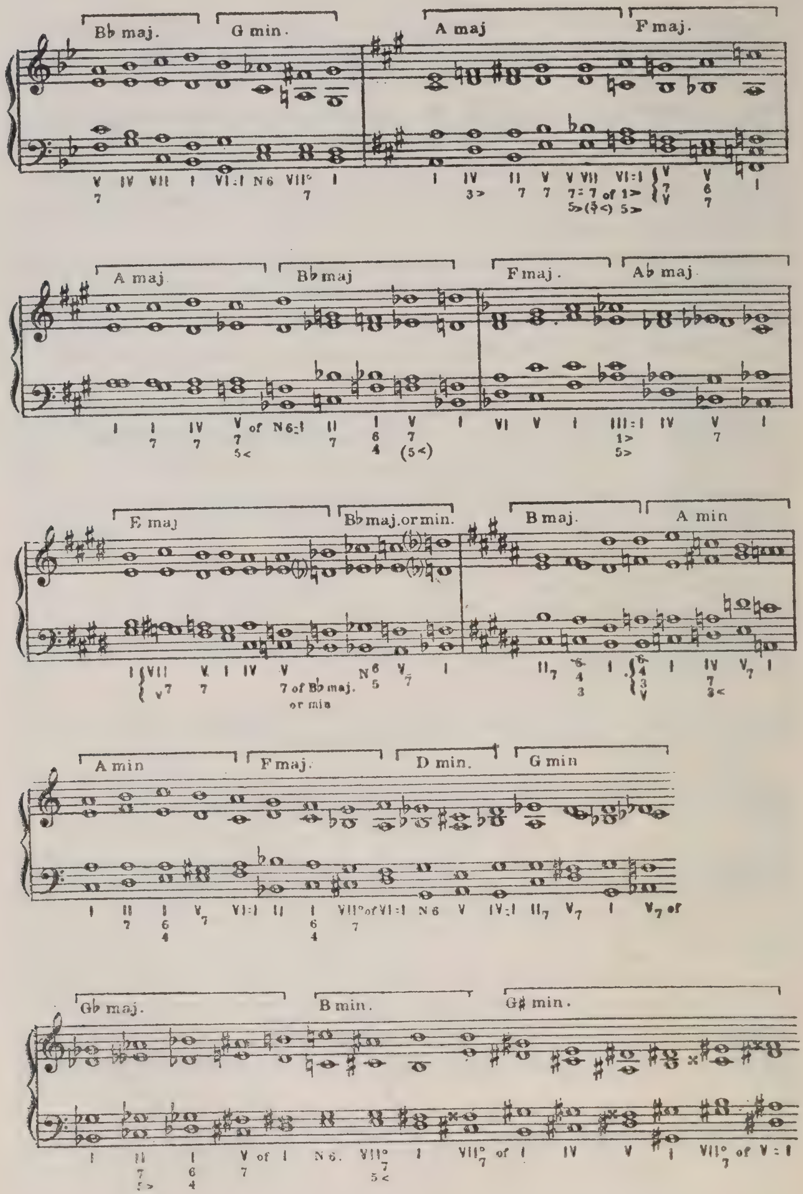
The chords marked with x are the result of the employment of passing-tones. At **a** the sound of the E minor chord is caused by passing, in the soprano, from D through E♮ into F, and in the bass from F through E♮ into E♭; it would be nonsensical to regard the resulting chord as III$^{5<}_{1<}$ in C minor but it may well be utilized as a bona fide harmony with all its harmonic consequences. In other words, this E minor chord may become a tonic through the addition of a cadence or it may be utilized as a supertonic in D major or subdominant in B minor or B major, etc., etc.

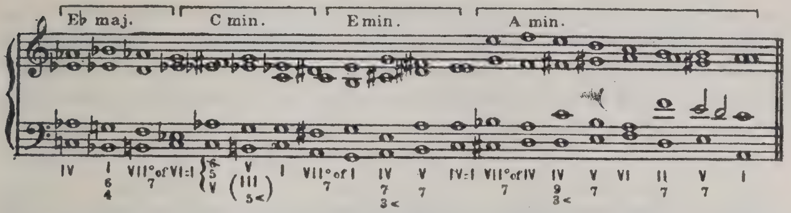
The A minor chord at **b** is caused by using A♮ as a passing-tone, originating with the V$_7$ of IV. This chord could not possibly be heard as VI$^{5<}_{1<}$ in C minor, yet its individual sound may be utilized as a real A minor triad. At **c** the use of E♮ as passing-tone produces the sound of an E major triad; at **d** the result is an A major triad; at **e** even the sound of a B major triad is brought about by using B♮ as a passing-tone between two VII°_{7} of V chords and the B minor sound at **f** is the result of the use of B♮ as passing-tone between two different positions of V_7 of V and the B flat minor chord at **g** by E♮ passing through F into G.

The following modulations are produced by means of added cadences. The triad which is to become the I of the new key may be introduced without preparation or it may be preceded by V formations of its own. The last mentioned procedure has been responsible for the formulation of that half-truth that modulation can be effected by the introduction of a V formation of the new key. It must always be remembered that a new tonic will not be accepted by the musical ear unless it is surrounded by representative IV and V formations.

It is also imperative that the key from which a modulation is to be made must be firmly established, as the following examples will illustrate. No major or minor triad will be accepted by the musically trained ear as a tonic, unless this character is emphasized by such harmonies as are necessary for the definite conception of a tonality.


E♭ maj
B♭ maj
D. maj
E min.
— I II7 V7 I V=I IV7 V7 I
I 6 5 V VII7 I II=I 6 5 V V 7 I
A♭ maj.
C min.
E maj.
A maj.
I II 7 5♭ V7 I III=I 6 4 3 V V7 I
I II7 V 7 5♭ I IV=I 6 5 V V7 I


B♭ maj.
G min.
A maj
F maj.
A maj.
B♭ maj
F maj.
A♭ maj.
E maj
B♭ maj. or min.
B maj.
A min
A min
F maj.
D min.
G min
G♭ maj.
B min.
G♯ min.
N 6
N6
VII° of VI : I
V of I
VII° of V : I
7 of B♭ maj. or min



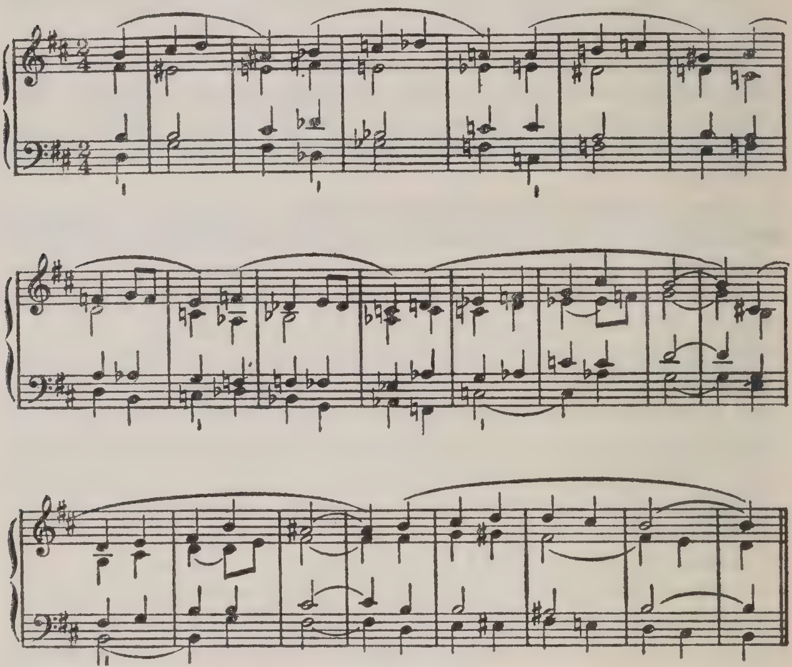
The first ten examples begin with an established major key, each one modulating, by means of added cadences, into any key which fancy dictated. Nos. 1 to 5 establish keys on V, II, III, IV and VI; the remaining ones modulate into keys much further removed.

The example beginning in A minor modulates through 9 keys, chosen at random, returning to the original tonality. The student should, however, write all his examples in the short forms; it will help him to a better understanding of the subject matter. Theorists formerly demanded "smoothness" of modulation by classifying and restricting the keys into which modulations were permitted. To-day there are no recognized restrictions except those demanded by the development of the musical form; and "smoothness" is simply the result of good and logical voice-leading.

Lesson: An almost infinite number of modulations may be written with the material on hand. The student should set his tasks himself, assisted by the teacher's advice. If he has carefully studied the analysis of the above examples, he should not experience any difficulties. The process should be somewhat like this: First establish the key from which the modulation is to be made, then introduce the I of the new key, either directly or preceded by some V formation of its own, and follow it by cadential harmonies of the new key.

An analysis of his work is essential and should result in a definite division of the two keys represented in each example; the harmonic structure must be indicated with figures. How many examples should you write? As many as your time between lesson-days permits! Modulations must also be practiced at the keyboard at home and during lesson periods—this is important!

A shifting of tonalities by means of sequences can hardly be called modulation, but must be considered as such inasmuch as new keys may be established by this means without having gone through the process of a real modulation. This may be called modulation by shifting of accents, better named "points of repose". The key-shiftings are usually the result of repetitions of musical thoughts, or phrases, in different keys.



Beginning in B minor, the first motive is repeated in B♭ minor and A minor. In measure 6 a slightly different motive is introduced in C major, repeated in A♭ major. In the 10th measure the new idea is a four-measure phrase in C minor, repeated in B minor, and an ending is added. None of the keys touched upon can even be considered related to each other, but the ear accepts such key-shiftings unconditionally, on account of the similarity of melodic and harmonic outline.

The students will have no difficulty in finding similar devices in almost any composition to which he may turn. To mention just one striking example, his attention is called to the first two phrases in Beethoven's Sonata, Op. 57; beginning in F minor, the same thought is immediately repeated in G♭ major. Wagner's operas furnish a fruitful field for exploration of this kind; the use of the so-called "Leit Motif" is in itself a reason and a necessity for constant key-shiftings. As a rule sequential modulations are of little value; they, too often, prove the composer's inability of developing his thoughts along large lines. Only the discriminating master-mind will know where such devices fit logically and imperatively into the mood which his thoughts wish to portray. In compositions written by lesser talents they denote weakness of inventive power.

There is no reason for pursuing this phase of our subject further as the intelligent student will readily admit the simplicity of sequential modulations.

Lesson: Write a few sequential modulations. It is recommended to end them in the key in which the example begins.

The most beautiful and artistically satisfying modulations are the result of harmonic ambiguity. The important fact to be remembered is that this ambiguity changes the harmony in question into a IV formation of the key into which the modulation is to take place. It therefore becomes an indisputable law that most modulations are the result of the creation of IV formations, which, if followed by V formations, or by the I^6_4 as a temporary suspension of such V formations, establish the new I.

Harmonic combinations of tones available as IV formations in the major and minor tonalities have been enumerated and explained on preceding pages and are here merely restated in condensed form for more convenient reference. It may seem a rather unsafe statement to say that some chord combinations furnish more effective IV formations than others, because "the choice of a modulatory harmony depends on its fitting into the musical thought" and yet it is a fact that elusiveness of sound adds greatly to the tonal charm. The numerals above the harmonies are for "ready reference" in connection with the ensuing work.

Subdominant formations in Major keys.

$$\overset{1}{\mathrm{IV}},\ \overset{2}{\mathrm{IV}_7},\ \overset{3}{\mathrm{IV}_9},\ \overset{4}{\mathrm{II}},\ \overset{5}{\mathrm{II}_7},\ \overset{6}{\mathrm{II}_9},\ \overset{7}{\mathrm{VI}},\ \overset{8}{\mathrm{IV}_{3>}},\ \overset{9}{\mathrm{IV}^7_{3>}},\ \overset{10}{\mathrm{IV}_{7>}},\ \overset{11}{\mathrm{IV}^{3>}_{7>}},\ \overset{12}{\mathrm{IV}^9_{3>}},$$

$$\overset{13}{\mathrm{IV}^9_{7>}},\ \overset{14}{\mathrm{IV}^9_{\substack{3>\\7>}}},\ \overset{15}{\mathrm{II}_{5>}},\ \overset{16}{\mathrm{II}^7_{5>}},\ \overset{17}{\mathrm{VI}_{1>}},\ \overset{18}{\mathrm{VI}^{1>}_{5>}},\ \overset{19}{\mathrm{N6}},\ \overset{20}{\mathrm{N}^6_5},\ \overset{21}{\mathrm{VII}^{\circ}_7},\ \overset{22}{\mathrm{VII}_7},\ \overset{23}{\mathrm{VII}^{\circ}_{\substack{7\\3>}}},$$

$$\overset{24}{\mathrm{VII}^{1>}_{7>}},\ \overset{25}{\begin{cases}\mathrm{V},\\ \mathrm{V}\end{cases}}\ \overset{26}{\begin{cases}\mathrm{V}_7,\\ \mathrm{V}\end{cases}}\ \overset{27}{\begin{cases}\mathrm{V}_9,\\ \mathrm{V}\end{cases}}\ \overset{28}{\begin{cases}\mathrm{VII}_7,\\ \mathrm{V}\end{cases}}\ \overset{29}{\begin{cases}\mathrm{V}_{9>},\\ \mathrm{V}\end{cases}}\ \overset{30}{\begin{cases}\mathrm{VII}^{\circ}_{7},\\ \mathrm{V}\end{cases}}\ \overset{31}{\begin{cases}\cancel{6},\\ \mathrm{V}\end{cases}}\ \overset{32}{\begin{cases}\substack{\cancel{6}\\5},\\ \mathrm{V}\end{cases}}\ \overset{33}{\begin{cases}\substack{\cancel{6}\\4\\3},\\ \mathrm{V}\end{cases}}\ \overset{34}{\begin{cases}\substack{\cancel{6}\\5}\\ \mathrm{V}\end{cases}}$$

(an alteration of $\begin{cases}\mathrm{VII}_7).\\ \mathrm{V}\end{cases}$

Subdominant formations in minor keys:

$$\overset{1}{\mathrm{IV}},\ \overset{2}{\mathrm{IV}_7},\ \overset{3}{\mathrm{IV}_9},\ \overset{4}{\mathrm{II}},\ \overset{5}{\mathrm{II}_7},\ \overset{6}{\mathrm{VI}},\ \overset{7}{\mathrm{N6}},\ \overset{8}{\mathrm{N}^{6}_{5}},\ \overset{9}{\mathrm{VII}^{\circ}_{7}},\ \overset{10}{\mathrm{VII}^{\circ}_{\substack{7\\3>}}},\ \overset{11}{\mathrm{VII}^{7}_{1>}},\ \overset{12}{\mathrm{IV}_{3<}}$$

$$\overset{13}{\mathrm{IV}^{7}_{3<}},\ \overset{13a}{\mathrm{IV}^{9}_{3<}},\ \overset{14}{\mathrm{II}_{5<}},\ \overset{15}{\mathrm{II}^{7}_{5<}},\ \overset{16}{\begin{cases}\mathrm{V},\\ \mathrm{V}\end{cases}}\ \overset{17}{\begin{cases}\mathrm{V}_7,\\ \mathrm{V}\end{cases}}\ \overset{18}{\begin{cases}\mathrm{V}_9,\\ \mathrm{V}\end{cases}}\ \overset{19}{\begin{cases}\mathrm{VII}^{\circ}_{7},\\ \mathrm{V}\end{cases}}\ \overset{20}{\begin{cases}\cancel{6},\\ \mathrm{V}\end{cases}}\ \overset{21}{\begin{cases}\substack{\cancel{6}\\5},\\ \mathrm{V}\end{cases}}\ \overset{22}{\begin{cases}\substack{\cancel{6}\\4\\3}.\\ \mathrm{V}\end{cases}}$$

The following comparative analysis of all possible IV formations provides practically inexhaustible modulatory material. The order of analysis follows the foregoing enumeration.*

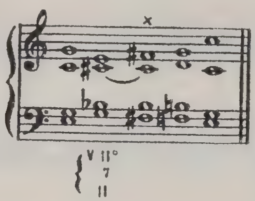
§1. The IV in the major key is a major triad. Therefore any major triad found in the major or minor tonality may become the IV of a new major key. Major triads contained in any major key are: I, N6, $\begin{cases}\mathrm{V},\\ \mathrm{V}\end{cases}$ $\mathrm{III}^{1>}_{5>}$, $\begin{cases}\mathrm{V}\\ \mathrm{VI}\end{cases}$, IV, V, $\mathrm{VI}^{1>}_{5>}$, $\begin{cases}\mathrm{V},\\ \mathrm{II}\end{cases}$ $\mathrm{VII}_{1>}$, $\begin{cases}\mathrm{V}\ .\\ \mathrm{III}\end{cases}$ (Even on the raised 4th of the major scale a major triad becomes possible, the result of a chromatic passing-tone:

---

*The first sixteen paragraphs deal with IV formations in the major tonality—paragraphs 17-28 show those belonging to the minor cadences. The modulations making use of the former may of course begin in either a major or a minor key—always ending in a new major key; the others, beginning in either a major or minor key, ending in a new minor tonality. (Inasmuch as many minor IV formations are used in major key cadences and some major IV formations in those of the minor variety—differing only in the order of enumeration,—it may be of some advantage to plan the work so that modulatory chords of the same construction may be made the subject of simultaneous or successive lessons, regardless of the order in which the IV formations in minor keys have been named on pages 359, 360. This would permit the lessons outlined in § §1 and 2 to be followed by those of §22, because these deal with major triads, which may be used as IV elements in either the major or the minor cadences.

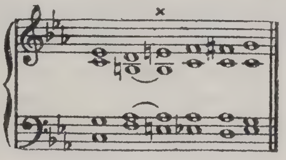
§ 3 and §3a may be followed by §23.
§ 4 may be followed by §17.
§ 5 may be followed by §18.
§ 6 may be followed by §19.
§ 7 deals with a chord only used in major cadences.
§ 8 may be followed by §25.
§ 9 (see what was said about §7).
§10 may be followed by §26.
§11 may be followed by §20.
§12 may be followed by §21.
§13 same conditions as §§7 and 9.
§14 may be followed by §24.
§14a may be followed by §27.
§15 may be followed by §28.
§16 same conditions as §§7, 9 and 13.

This would obviate the necessity of ending all the modulations outlined in §§1 to 16 in major and the remaining ones in minor keys, substituting modulation in both the major and their parallel minor tonalities. The adoption of this suggestion is left to the teacher's discretion.)

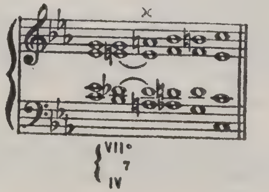

×
$\left\{\begin{matrix}\text{V II}^\circ_7\\ \text{II}\end{matrix}\right.$

the F♯ is that passing-tone which produces, temporarily, the sound of an F♯ major triad.)

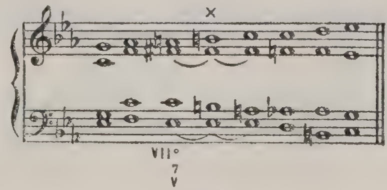
Major triads contained in any minor key are: $I_{3<}$, N6, $\left\{\begin{matrix}\text{V, III, VII}^\circ_7\\ \text{V}\end{matrix}\right.$ (with raised 3d of scale as passing-tone;—



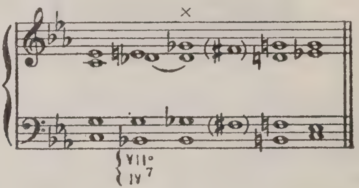
—the use of the E♮ as passing-tone creates temporarily the sound of an E major triad; it is the only possible explanation of the presence of that triad in the key of C minor), $IV_{3<}$, V, VI, $\left\{\begin{matrix}\text{VII}^\circ_7\\ \text{IV}\end{matrix}\right.$ (with raised 6th of scale as passing-tone;—


×
$\left\{\begin{matrix}\text{VII}^\circ_7\\ \text{IV}\end{matrix}\right.$

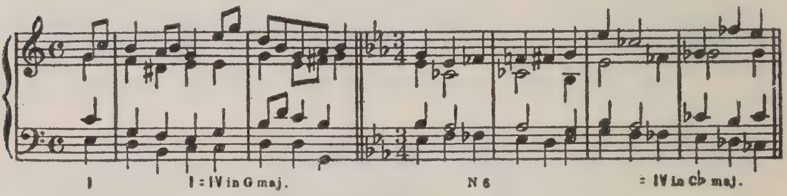
—again: the presence of the sound of the A major triad in the key of C minor can have no plausible explanation other than as illustrated in the example), VII_1, $\left\{\begin{matrix}\text{VII}\\ \text{V}^\circ_7\end{matrix}\right.$ with the raised 7th of scale as passing-tone,—

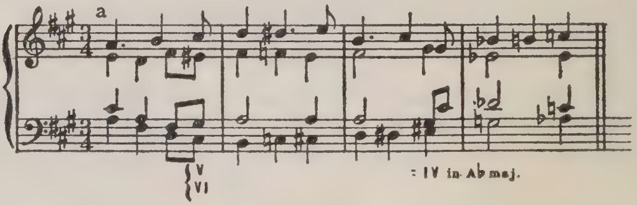

×
VII°_7
V

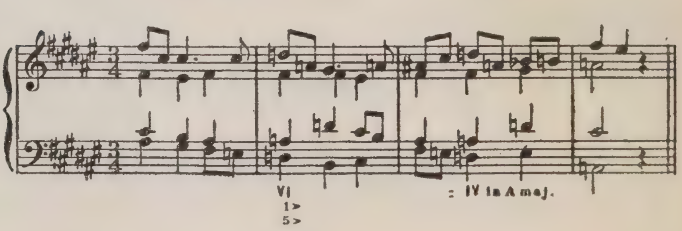
The major triad on G♭ or F♯ becomes possible in the key of C minor if either sound is used as a passing-tone with $\left\{\begin{matrix}\mathrm{VII}^{\circ}_{7}.\\ \mathrm{IV}\end{matrix}\right.$



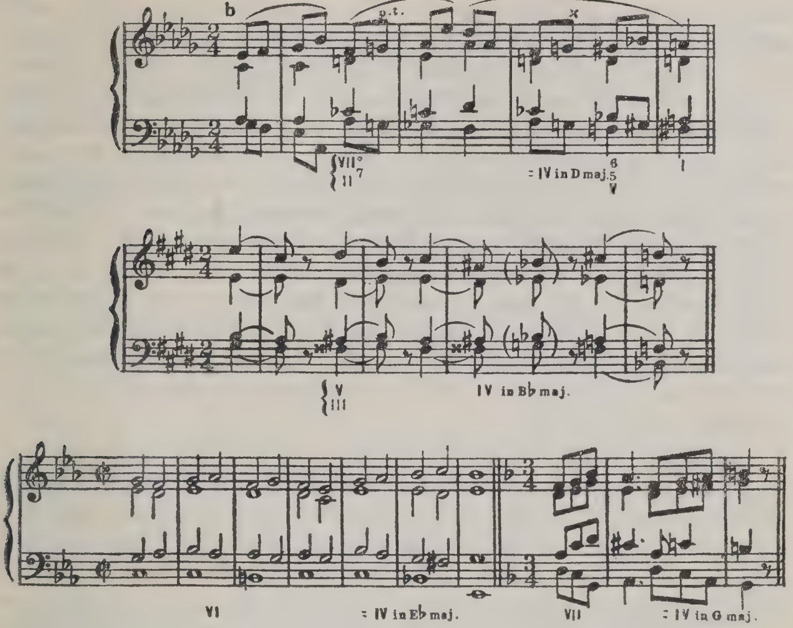
An investigation of the foregoing proves that major triads may be formed on every one of the 12 half steps in the major or minor tonalities; each one is available for a IV triad in some major key! If the student considers that this is only the first chord of all aforementioned IV formations he will begin to understand the meaning of—"practically inexhaustible modulatory material".



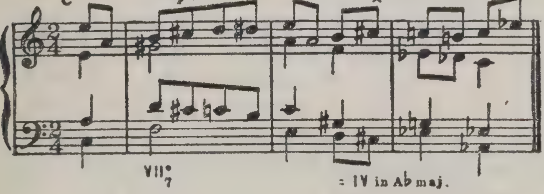




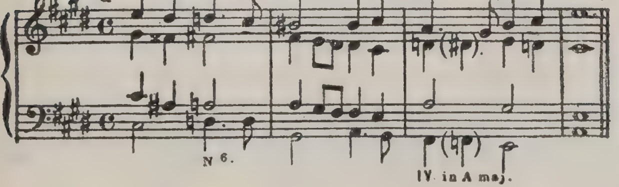
b


p.t.
x
VII° 7
II 7
= IV in D maj. 6 5
V
I
V
III
IV in B♭ maj.
VI
= IV in E♭ maj.
VII
= IV in G maj.

c


p.t.
x
VII° 7
= IV in A♭ maj.

d


N 6.
IV. in A maj.

No attempt has been made at "system": the modulatory major triad has been chosen at random as the study of the analytical figures will prove. The notation of the keys will sometimes present problems by no means easy of solution. The student with the guidance of the teacher will, however, soon develop judgment in this matter. It is impossible to give definite rules, altho it is usually best to write the chord of modulation according to the new key; yet much depends on its place in the phrase. In the example marked **a** the C♯ maj. chord should have been written as D♭ maj. where it becomes IV of A♭ major; still it "looks" better the way I have notated it: "it is easier to read". The real solution would have been to have used the key of G♯ major instead of A♭ major. In examples **b** and **c** I have purposely chosen some of the less usual major triads, major triads resulting from the use of passing-tones,—in the former the raised 4th and in the latter the raised 3d of the scales.

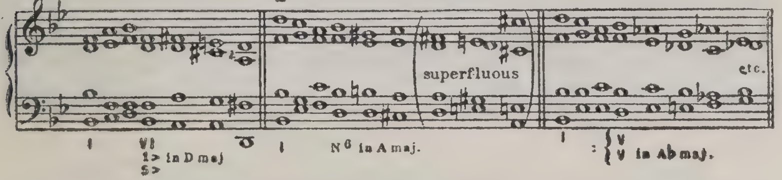
Lesson: Write a number of similar examples changing any **major triad** into the IV of the new major key. The examples should consist only of a few measures: they must be regarded as possible parts of sustained musical thought. For practice sake and also as a matter of discipline it is necessary to establish the first key firmly—remember: no triad can be accepted as a tonic unless it is proven as such. The modulatory chord should be introduced twice, first in the key from which the modulation is to take place and then again when it becomes IV of the new key where it is to be followed by some V formation or I (preferably I^6_4 if musically satisfactory). Exceptions are found in examples **b** and **d** where augmented 6th formations become part of the final cadence. Do not neglect the improvisation of modulations on the keyboard—this is most important! Set yourself the task and carry it out according to the above instructions. The teacher must ask for keyboard work in the class room.

These recommendations apply to all future work in modulation and will not be repeated, so make them your own while illustrating this first lesson. The modulations may begin in a major or minor key, but at present they must end in a new major key unless the work is done according to the suggestion made in the foot-note on page 360.

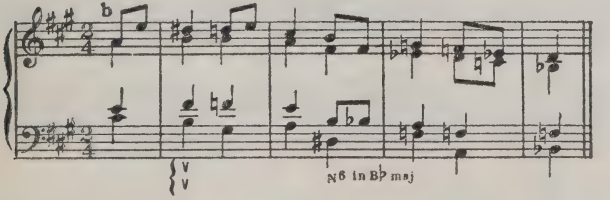
§2. The IV triad is not the only major chord which represents the subdominant idea in the major key; other major triads available for this purpose are: $\overset{18}{\mathrm{VI}^{5>}_{1>}}$, $\overset{19}{\mathrm{N6}}$ and $\overset{25}{\left\{\begin{matrix}\mathrm{V}.\\ \mathrm{V}\end{matrix}\right.}$ Therefore: any major triad contained in the major and minor tonalities may serve as $\mathrm{VI}^{5>}_{1>}$ or N6 or $\left\{\begin{matrix}\mathrm{V}.\\ \mathrm{V}\end{matrix}\right.$ Of these the N6 is by far the most important: its altered tones raise its powers as a IV formation to the greatest potentiality, and its effectiveness as a modulatory means remains unimpaired no matter how frequently it is employed. The reason for this lies in the very distant relationship between it and the V of a key, and a progression from N6 to V will invariably constitute a distinct "surprise". $\mathrm{VI}^{5>}_{1>}$ and $\left\{\begin{matrix}\mathrm{V}\\ \mathrm{V}\end{matrix}\right.$ are rather weak members of a cadence; the former contains too much of the I color and the latter is too "blunt": it lacks the ameliorating elements of the 7th and 9th which all other V formations of the V key possess.

The major triads contained in the major and minor tonalities which permit of their change into a $\mathrm{VI}^{5>}_{1>}$, N6 and $\left\{\begin{matrix}\mathrm{V}\\ \mathrm{V}\end{matrix}\right.$ have been enumerated in § 1.

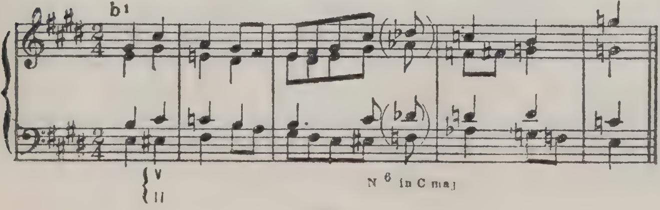
a

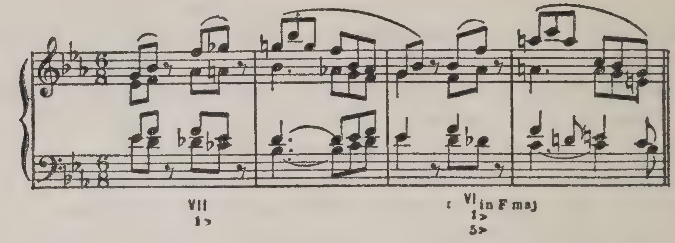


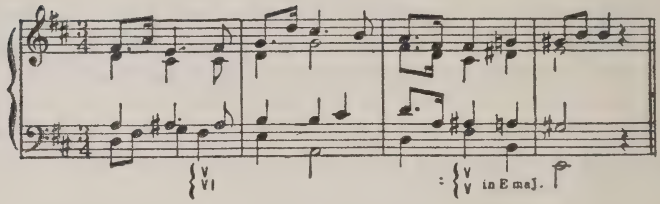
b



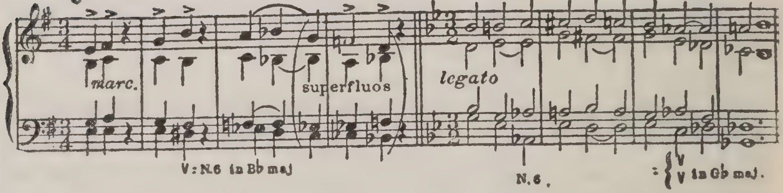
b¹



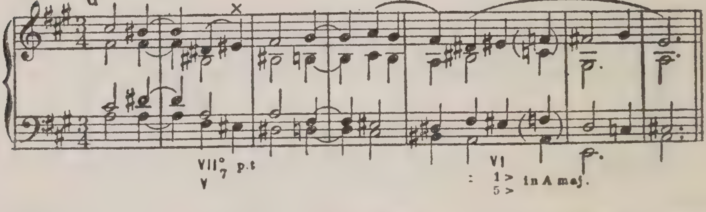

VII
1>
: VI in F maj
1>
5>


V
VI
: V
V in E maj.

c


marc.
superfluos
legato
V: N.6 in Bb maj
N.6
: V
V in Gb maj.

d

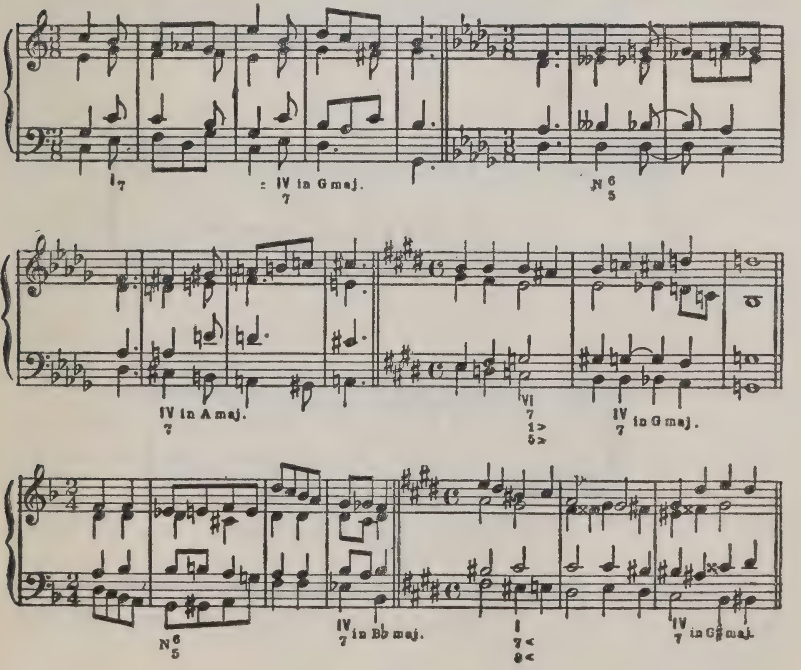

VII°7 p.t
V
VI
: 1> in A maj.
5>

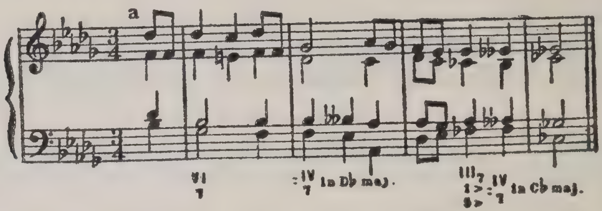
The first three modulations consist of simple chord progressions, such as the student should employ when modulating at the keyboard. Those marked **a** and **c** reached the new keys, previous to the endings marked "superfluous"; these chords have been added in order to complete the "thought". Examples b and b 1 and **d** necessitate enharmonic changes of the modulatory chords. All the examples contain the chord of modulation twice, except the one marked **c**.

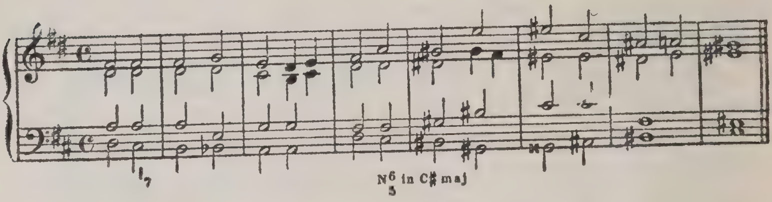
Lesson: Write modulations from any major or minor key, using any major triad contained therein as either $\mathrm{VI}^{5>}_{1>}$ or N6 or $\left\{\begin{matrix}\mathrm{V}\\\mathrm{V}\end{matrix}\right.$ in the cadences of the major keys to be established.

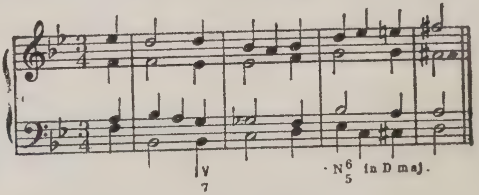
§3. The $\overset{2}{\mathrm{IV}_7}$ and the $\overset{20}{\mathrm{N}^6_5}$ in major are composed of a major triad and major 7th; therefore any similar combination found in either the major or minor tonality may become a IV_7 or N^6_5 of a new major key. Such chords are found in major as I_7, N^6_5, $\mathrm{III}^7_{\substack{5>\\1>}}$, IV_7, $\mathrm{VI}^7_{\substack{5>\\1>}}$, $\mathrm{VII}^7_{1>}$, and in minor as $\mathrm{I}^{7<}_{3<}$, N^6_5, III_7, $\mathrm{IV}^{7<}_{3<}$, VI_7, $\mathrm{VII}_{7<}$. It is more or less difficult to introduce these harmonies effectively, on account of their strong melodic character which restricts the leading of the voices considerably.

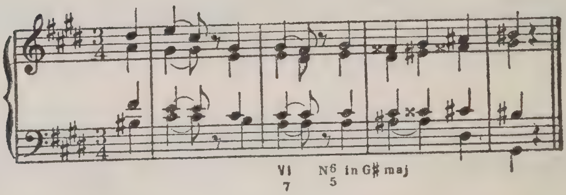
If the modulation is made from a major key, the ones most easily introduced are I_7 and N^6_5, and if made from a minor key N^6_5, VI_7 and III_7, but this does not exclude the others mentioned as the following examples will prove.

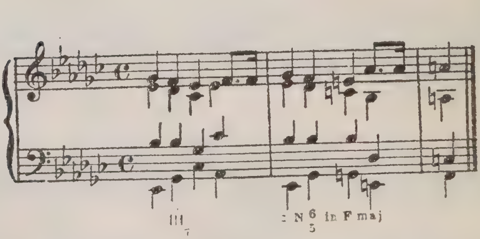



a
VI 7
: IV 7 in D♭ maj.
III7 1> 3> : IV 7 in C♭ maj.


I7
N6 5 in C♯ maj


V 7
· N6 5 in D maj.

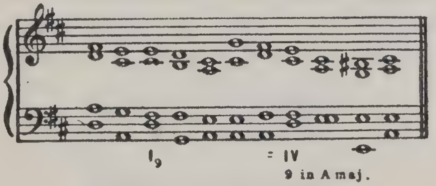

VI 7
N6 5 in G♯ maj

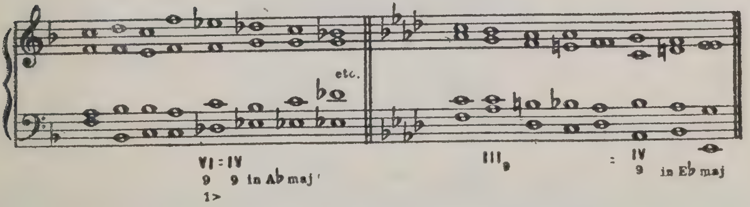

III 7
: N 6 5 in F maj

The student must analyze these examples carefully and pay particular attention to the voice-leading. The one marked a contains two modulations!

§ 3a. The IV_9, No. 3 in the list of IV formations.

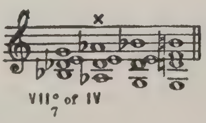
Only a few similarly constructed chords can be found in the major and minor tonalities and these are of such obviously melodic character (see chapter on 9th chords) that their use as modulatory harmonies is very much restricted. In major keys they may occur as I_9, $\mathrm{III}^{9}_{\substack{5>\\1>}}$, $\mathrm{VI}^{9}_{\substack{5>\\1>}}$, $\mathrm{VII}^{9}_{1>}$ and in minor keys as III_9 and VI_9.

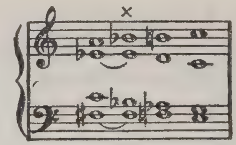




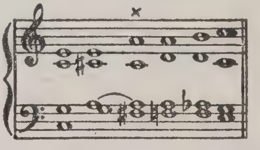
Lesson: Write modulations wherein any major triad with major 7th is changed to IV_7 or N^6_3 and also some modulations changing any of the 9th chords mentioned in §3a into IV_9. (The lowered 5ths indicated are of no value in four-part writing because the 5ths have to be omitted!)

§4. The $\overset{4}{\mathrm{II}}$, the $\overset{7}{\mathrm{VI}}$ and the $\overset{8}{\mathrm{IV}}_{3>}$ are minor triads, available for the cadence of any major key; II and $\mathrm{IV}_{3>}$ are particularly effective and are among the most frequently used means of modulation.

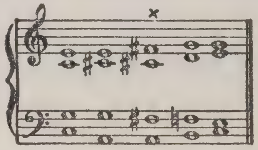
Any minor triad may therefore become a II or VI or $\mathrm{IV}_{3>}$ in the cadence of a major tonality. The minor triads possible in a major key are $\mathrm{I}_{3>}$, VII°_{7} of IV with lowered 6th of scale as passing-tone (in C major ), II, VII°_{7} of V with lowered 7th of scale as passing-tone,

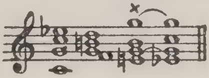
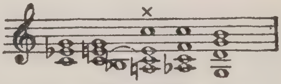
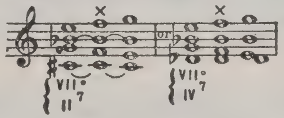


III, IV$_{3>}$, V$_{5>}$, VII$^{\circ}_{7}$ with lowered 3d of scale as passing-tone, VI, VII$^{\circ}_{7}$ of II, or VII$^{\circ}_{7}$ of IV with 4th of scale as passing-tone, VII$_{5<}$, which must, however, be regarded as III of V. The minor triad on the raised 4th of the scale becomes possible if it is considered a delayed resolution of a V formation of II:

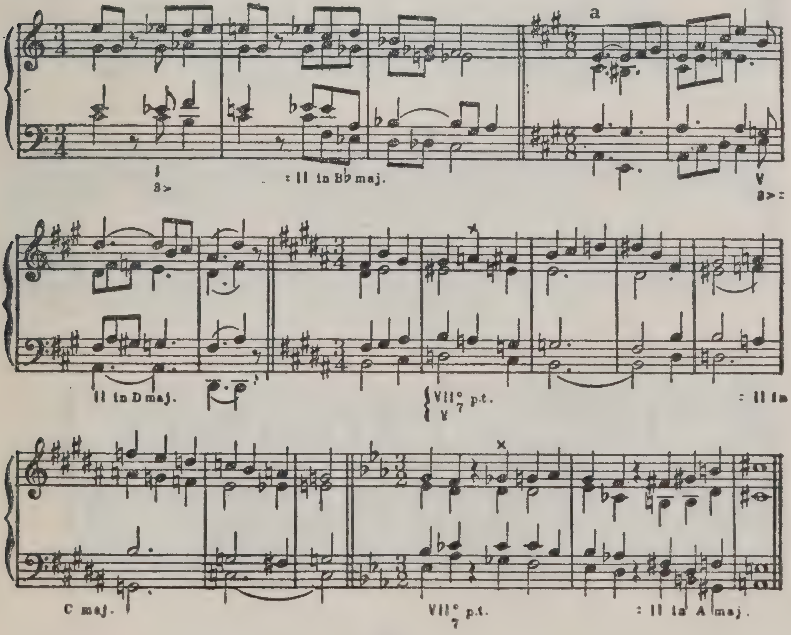


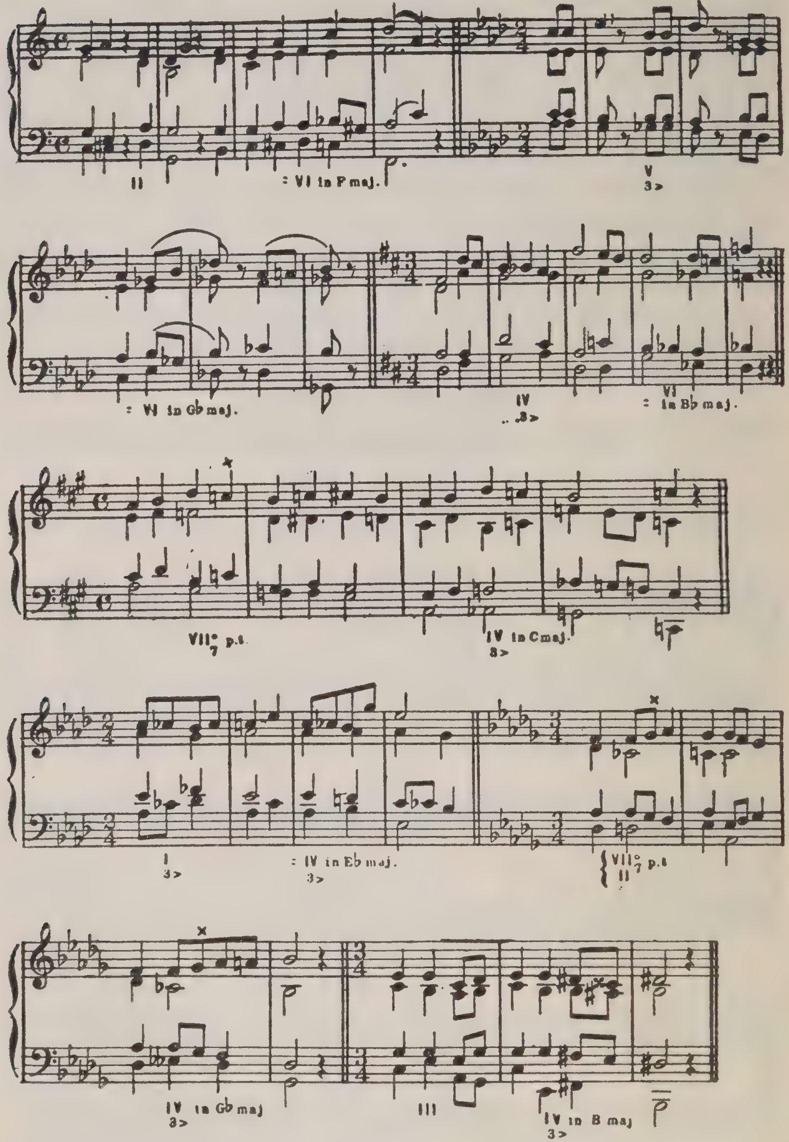
or if the raised 4th of scale is used as passing-tone:

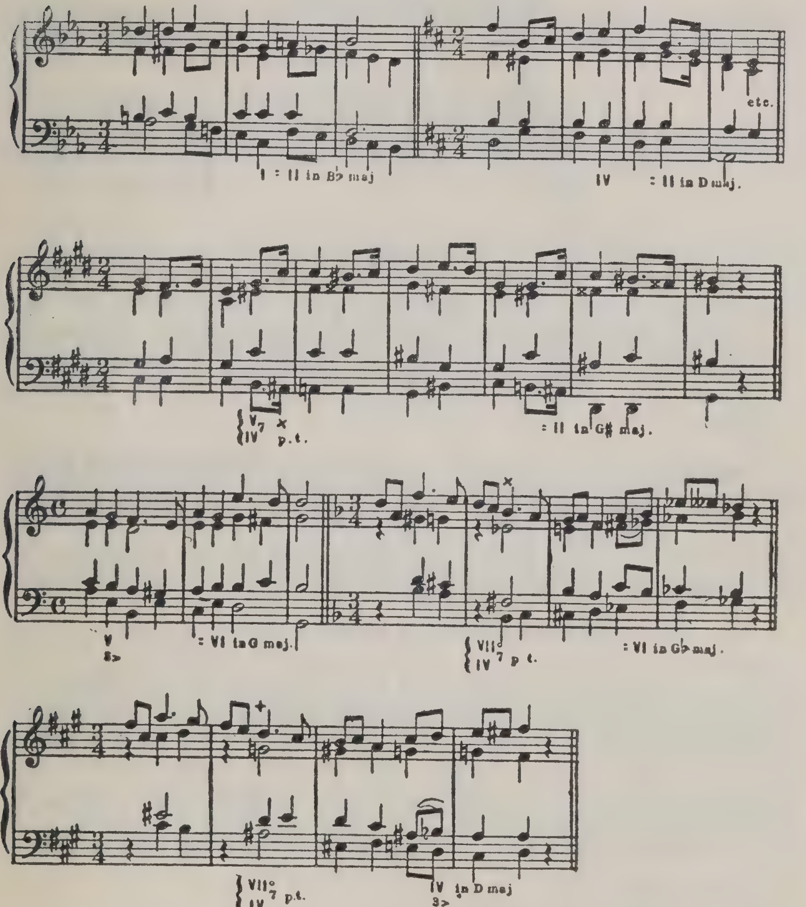


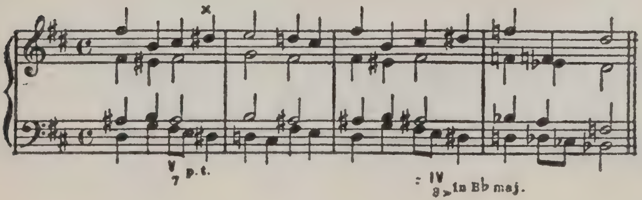
Minor triads in the minor tonality which may be used as II or VI or IV$_{3>}$ in the cadence of a major key are: I, VII$^{\circ}_{7}$ of IV with 6th of scale as passing-tone, equalling a D♭ minor chord in C minor, II$_{5<}$, VII$^{\circ}_{7}$ of V with natural 7th of scale as passing-tone (= E♭ min. triad), V formations with delayed resolution (creating a III$^{5<}_{1<}$ ) IV, V$_{3>}$ VII$^{\circ}_{7}$ with 3d of scale as passing-tone (= A♭ minor triad), V$_{7}$ of IV with delayed resolution , VII$^{\circ}_{7}$ of IV with 4th of scale as passing-tone (= B♭ minor triad), III of V. It may be noticed that I have omitted the minor triad on the raised 4th of the scale, but F♯ minor, as part of the C minor tonality, is too far removed to permit of sensible explanation. In the C major tonality it was considered as a delayed resolution of a V formation of II or as the result of a passing-tone in V$_{7}$ of II; this explanation cannot be accepted in minor, because the original triad on II is diminished and, as such, it cannot claim V formations of its own. A further word of explanation is necessary regarding the origin of minor triads which have apparently no connection with the tonality. For example, in the key of C major, the minor triads on C♯ (or D♭), on E♭ (D♯), on F♯ and A♭ and B♭ cannot possibly be regarded as $\mathrm{I}^{5<}_{1<}$ or $\mathrm{II}^{5>}_{\substack{3>\\1>}}$ or $\mathrm{III}^{5>}_{\substack{3>\\1>}}$, etc., nor the minor triads in C minor on D♭ (C♯), E♭, E♮, A♭, A♮ and B♭ as $\mathrm{II}^{3>}_{1>}$ or $\mathrm{III}_{3>}$ or $\mathrm{III}^{5<}_{1<}$, etc., etc. To be sure, the sound of these chords is that of a minor triad; but the only logical explanation for their existence in C major and C minor must be found in the use of passing-tones creating purely accidental minor triads. Some of these are capable of more than one derivation; for instance, the B♭ minor chord in C major may be the result of 

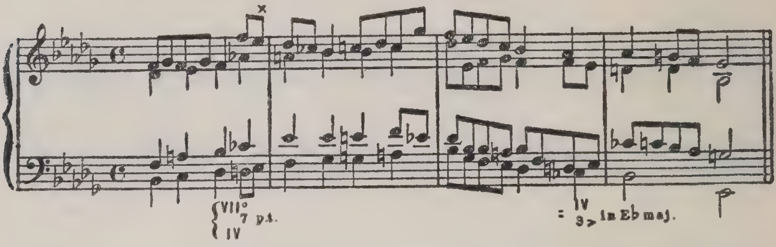
; but in most cases the student will find the explanations given above sufficient.




II
: VI in F maj.
V
3>
: VI in Gb maj.
IV
.. 3>
VI
: in Bb maj.
VII°7 p.s.
IV in C maj.
3>
I
3>
: IV in Eb maj.
3>
VII°7 p.s
II
IV in Gb maj
3>
III
IV in B maj
3>


etc.
I : II in B♭ maj
IV : II in D maj.
V7 ×
IV p.t.
: II in G♯ maj.
V
8>
: VI in G maj.
×
VII°7
IV p.t.
: VI in G♭ maj.
+
VII°7
IV p.t.
IV in D maj
3>

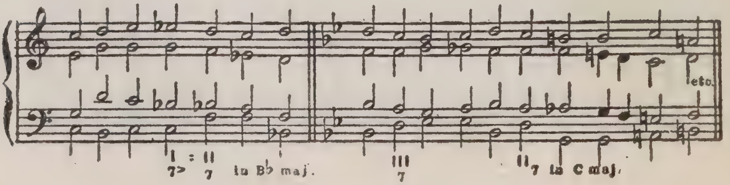

×
V7 p.t.
: IV
8> in B♭ maj.

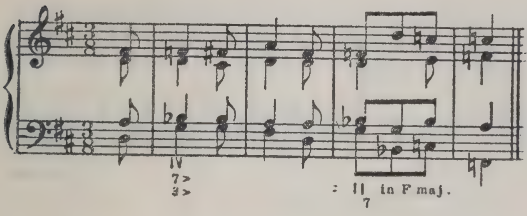


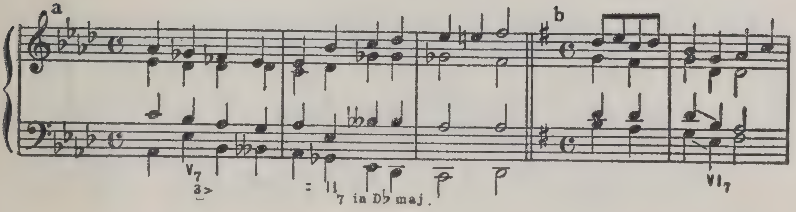
These examples contain a number of minor triads which are the result of the use of passing-tones. The example marked a contains the modulatory chord but once, and in others the modulatory triad has to be read enharmonically; otherwise the examples are self-explanatory,—but they must be carefully analyzed.

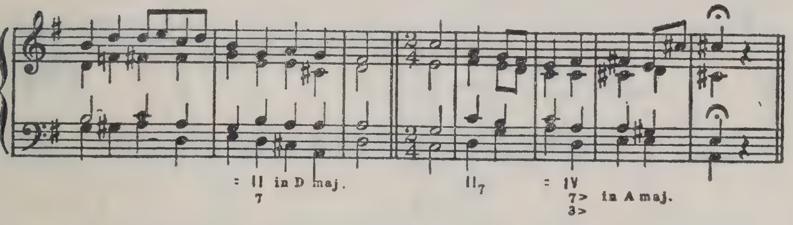
Lesson: Any minor triad contained in either major or minor tonality must be used as II or VI or $\text{IV}_{3>}$ in the cadences of the major key into which the modulation is to be made. Use principally minor triads which are really part of the tonalities and only occasionally those which are the result of passing-tones.

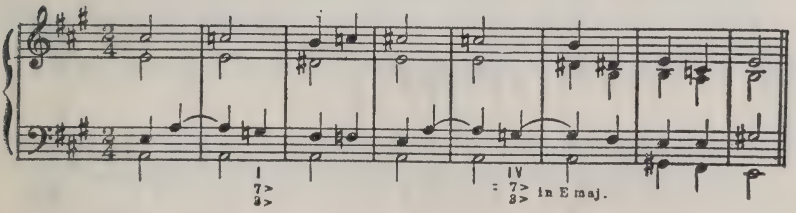
§5. The chords numbered 5 and 11, the II_7 and $\text{IV}^{7>}_{3>}$ in the cadences of the major key are not equally effective. The II_7 is one of the most convincing IV formations, as it is composed of the IV and II triads, but the $\text{IV}^{7>}_{3>}$ is of little value, being much more at home in the minor tonality. They both possess many prototypes; these in major are: $\text{I}^{7>}_{3>}$, II_7, III_7, $\text{IV}^{7>}_{3>}$, $\text{V}^{7}_{3>}$, VI_7 and in minor I_7, $\text{II}^{7}_{5<}$, $\underset{1<}{\text{III}^{7}_{5<}}$ (the result of a delayed resolution of V_7 or of VII°_{7}), IV_7, $\text{V}^{7}_{3>}$, $\underset{1<}{\text{VI}^{7}_{5<}}$ (the result of a delayed resolution of $\left\{\begin{matrix}\text{V}_7\\ \text{IV}\end{matrix}\right.$ or $\left\{\begin{matrix}\text{VII}^{\circ}_{7}\\ \text{IV}\end{matrix}\right.$).

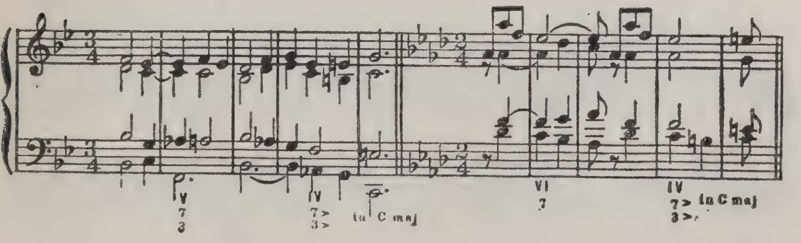


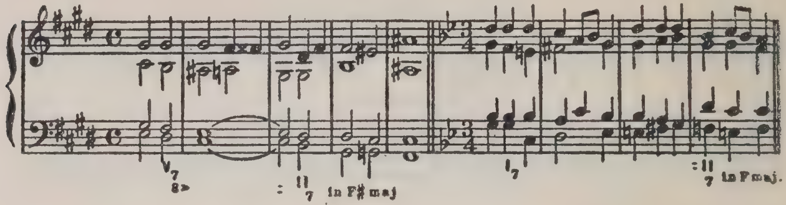

IV
7>
3>
: II in F maj.
7

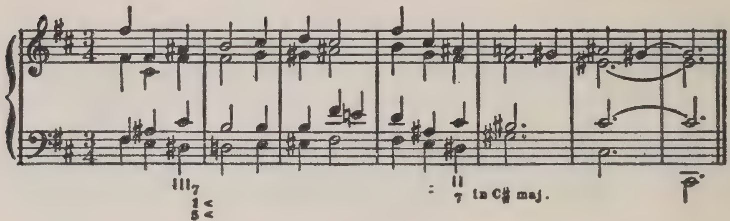

a
b
V7
3>
: II
7 in D♭ maj.
VI7


: II in D maj.
7
II7
: IV
7> in A maj.
3>

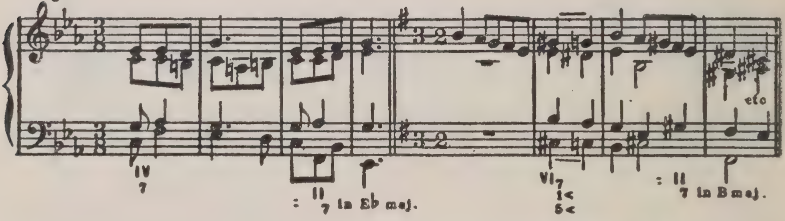

I
7>
3>
: IV
: 7> in E maj.
3>

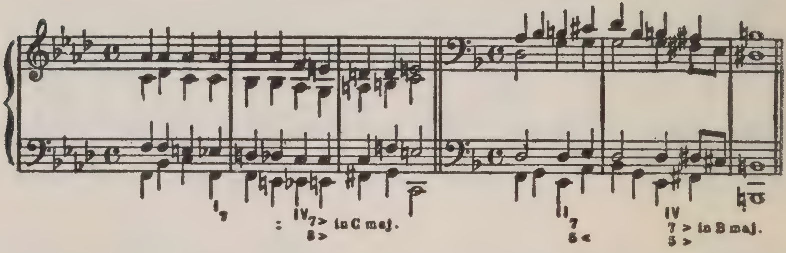

V
7
3
IV
7> in C maj
3>
VI
7
IV
7> in C maj
3>

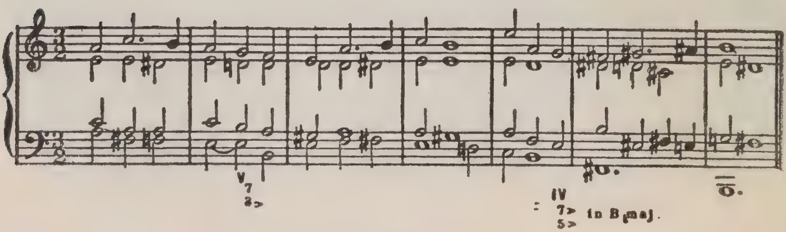

V7 8>
: II7 in F# maj
I7
: II7 in F maj.


III7 1< 5<
: II7 in C# maj.

c


IV 7
: II7 in Eb maj.
VI7 1< 5<
: II 7 in B maj.
etc

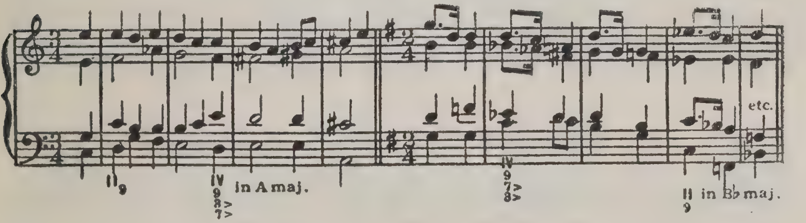

I7
: IV7> 8> in C maj.
I 7 6<
IV 7> 5> in B maj.

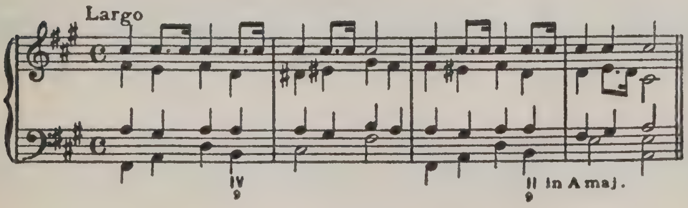

V7 8>
: IV 7> 5> in B maj.

The examples marked **a, b** and **c** contain some of the most natural modulations, such as are used for the sake of musical form; all the others move into remoter keys. Some of the modulations may seem rather sudden, but repeated playing of the examples will soon prove not only their feasibility but also that they are entirely satisfactory, musically.

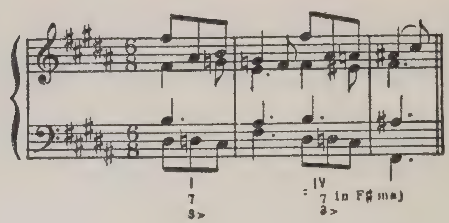
Lesson: Use for modulations those combinations of tones (found in the major and minor tonalities) which correspond to the II_7 and $\mathrm{IV}^{7>}_{3>}$ in the cadences of major keys.

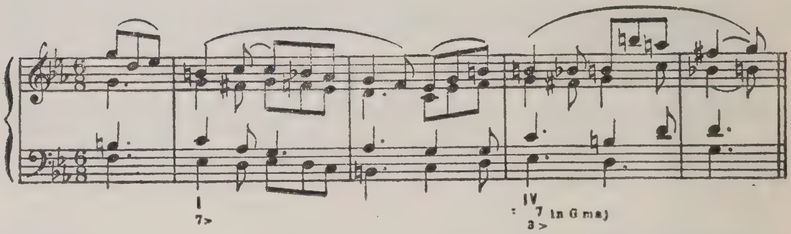
§6. $\overset{6}{\mathrm{II}_9}$ and $\overset{14}{\mathrm{IV}^{9}_{\substack{7>\\3>}}}$ have no harmonic equivalents. In other words II_9 may become $\mathrm{IV}^{9}_{\substack{7>\\3>}}$ or vice versa, or IV_9 in minor may become II_9 in major. (Of course, II_9 in major may become IV_9 in the minor cadence, but the present modulations lead into major keys; the modulations into minor keys will be treated later on.)

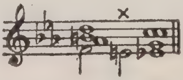


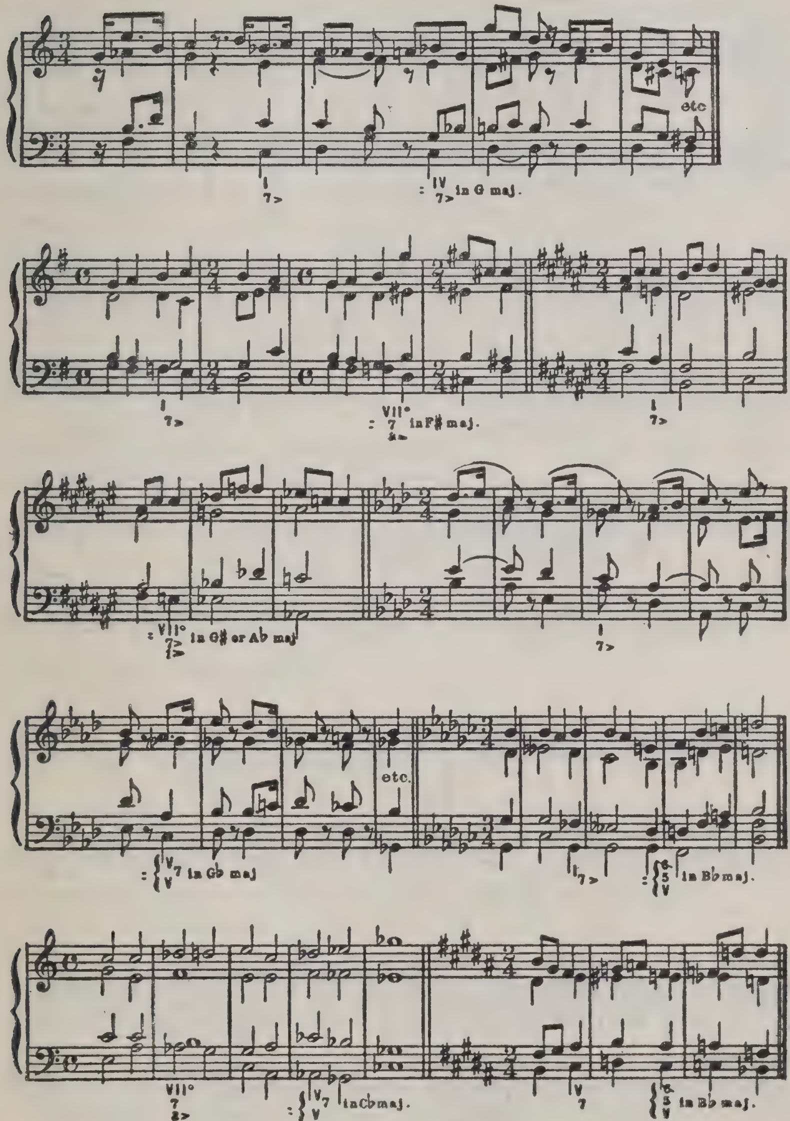


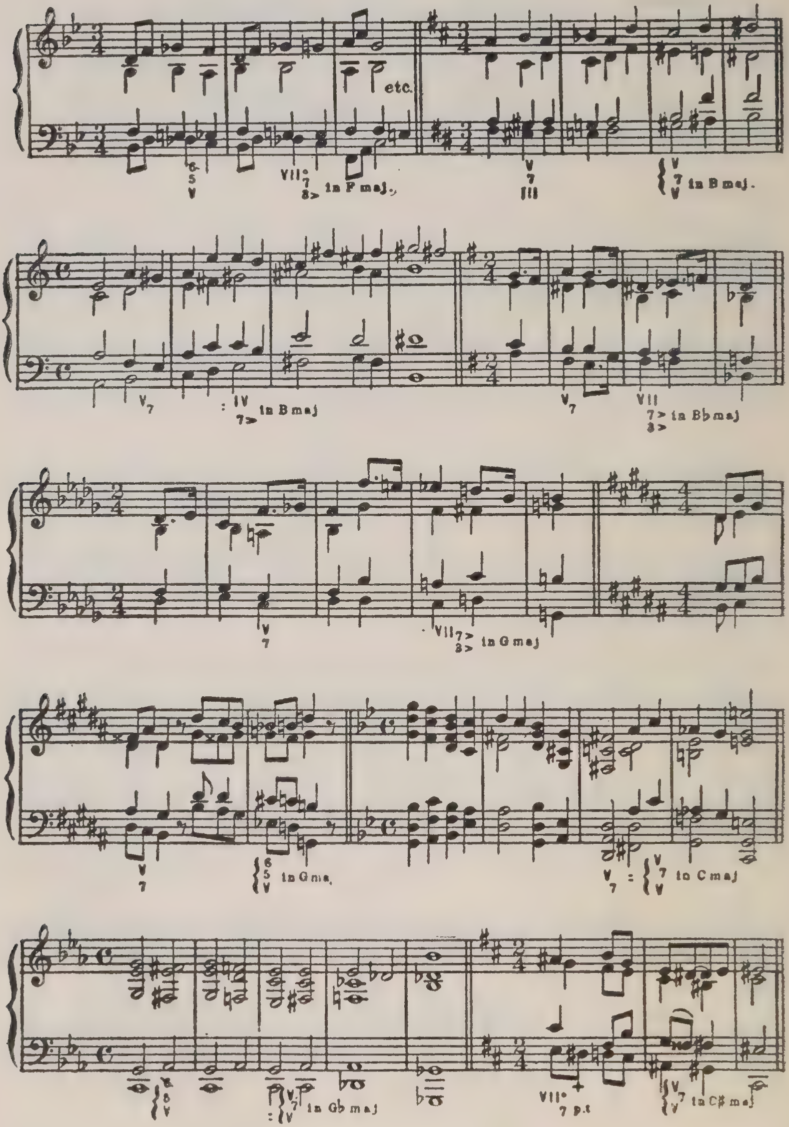
§7. $\mathrm{IV}^{7}_{3>}$, No. 9 in the list of IV formations in major, has only two harmonic equivalents: in major keys the $\mathrm{I}^{7}_{3>}$ and in minor $\mathrm{I}_{7<}$. A review of the lessons dealing with these chords will show that the 7th sounds well only if placed in the soprano.





§8. There are a number of IV formations in the major tonality which sound like V_7 chords, which nevertheless supply some beautiful IV effects; they are: $\overset{10}{\mathrm{IV}_{7>}}$, $\overset{23}{\mathrm{VII}^{\circ}_{\substack{7\\3>}}}$, $\overset{24}{\mathrm{VII}^{7>}_{1>}}$, $\overset{26}{\left\{\begin{matrix}\mathrm{V}_7,\\ \mathrm{V}\end{matrix}\right.}$ $\overset{32}{\left\{\begin{matrix}{}^{\not 6}_{5}\\ \mathrm{V}\end{matrix}\right.}$ $\overset{31}{\left\{\begin{matrix}\not 6.\\ \mathrm{V}\end{matrix}\right.}$ (The last named is of little value, because the $\left\{\begin{matrix}{}^{\not 6}_{5},\\ \mathrm{V}\end{matrix}\right.$ may almost invariably be used in its place.) There are to be found, in both the major and minor tonalities, so many equivalents that they provide almost limitless modulatory material as the examples will readily prove. Their equivalents in major are: $\mathrm{I}_{7>}$, $\mathrm{VII}^{\circ}_{\substack{7\\3>}}$, $\left\{\begin{matrix}\mathrm{V}_7,\\ \mathrm{V}\end{matrix}\right.$ $\left\{\begin{matrix}\mathrm{V}_7\\ \mathrm{VI}^{5>}_{1>}\end{matrix}\right.$, $\left\{\begin{matrix}\mathrm{V}_7, \mathrm{IV}_{7>}, \mathrm{V}_7,\\ \mathrm{VI}\end{matrix}\right.$ $\left\{\begin{matrix}{}^{\not 6}_{5},\\ \mathrm{V}\end{matrix}\right.$ $\left\{\begin{matrix}\mathrm{V}_7, \mathrm{VII}^{7>}_{1>},\\ \mathrm{II}\end{matrix}\right.$ $\left\{\begin{matrix}\mathrm{V}_7.\\ \mathrm{III}\end{matrix}\right.$ In the minor tonality: $\left\{\begin{matrix}\mathrm{V}_7, \mathrm{VII}^{\circ}_{\substack{7\\3>}},\\ \mathrm{IV}\end{matrix}\right.$ $\left\{\begin{matrix}\mathrm{V}_7,\\ \mathrm{V}\end{matrix}\right.$ $\left\{\begin{matrix}\mathrm{V}_7, \mathrm{VII}^{\circ}_7\\ \mathrm{VI}\end{matrix}\right.$ with 3< of scale as substitute tone for the 5th of VII°_7 , $\mathrm{IV}^{7}_{3<}$, V_7, $\left\{\begin{matrix}{}^{\not 6}_{5},\\ \mathrm{V}\end{matrix}\right.$ $\left\{\begin{matrix}\mathrm{VII}^{\circ}_7\\ \mathrm{IV}\end{matrix}\right.$ with 6< of scale as substitute for the 5th of the chord, $\mathrm{VII}^{7}_{1>}$, $\left\{\begin{matrix}\mathrm{VII}^{\circ}_7\\ \mathrm{V}\end{matrix}\right.$ with 7< of scale as substitute for the 5th.

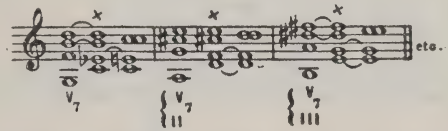

I 7>
IV 7> in G maj.
etc
I 7>
VII° 7 in F♯ maj.
I 7>
VII° 7> in G♯ or A♭ maj.
I 7>
V7 V in G♭ maj
etc.
I 7>
6 5 V in B♭ maj.
VII° 7 8>
V7 V in C♭ maj.
V 7
6 5 V in B♭ maj.


6
5
V
VII°
7
8> in F maj.
etc.
V
7
III
V
7
V in B maj.
V7
: IV
7> in B maj
V7
VII
7> in B♭ maj
3>
V
7
VII 7>
3> in G maj
V
7
6
5
V in G ma.
V
7
: V
7
V in C maj
8
6
V
V
7
: V in G♭ maj
VII°
7 p.t
V
7
V in C♯ maj

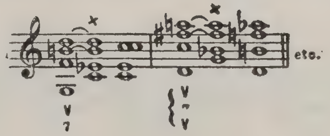
The first 5 examples show the changes of a $I_{7>}$ into the five IV formations mentioned at the beginning of §8. The ones beginning in a minor key show how the V_7 may be changed likewise. If I had treated all the equivalents of these IV formations (of which there are 22) in a similar way I should have been obliged to furnish over 100 examples without using the same harmonies twice. Considering, furthermore, the thousands of ways in which any of these chords may be introduced, the student will get an idea of the vastness of the possibilities! The modulatory chords in the remaining illustrations have been chosen at random.

Lesson: Use the IV formations mentioned in §§6, 7 and 8 in the cadences of the keys into which the modulation takes place.

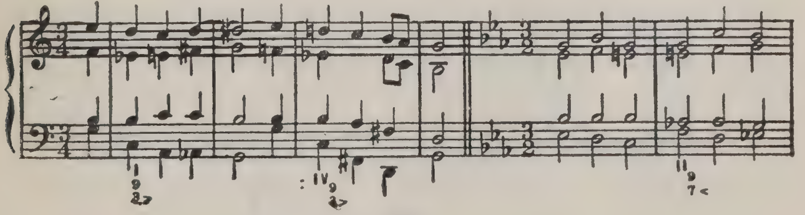
§9. There are really no equivalents for $\overset{12}{\mathrm{IV}^{9}_{3>}}$, except those 9th chords which are purely the result of melodic combinations, as, for instance, in major keys:

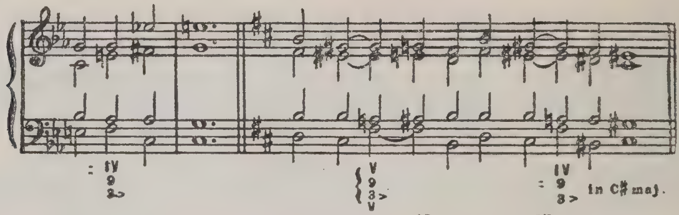


or in minor, for instance:



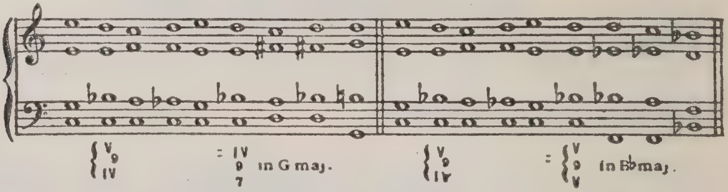
The combinations marked x are nothing but delayed resolutions of the preceding V_7 chords. As modulatory means they may be dismissed with one or two illustrations.

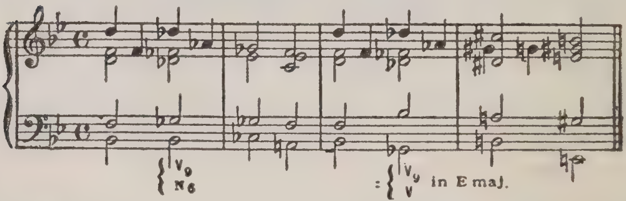


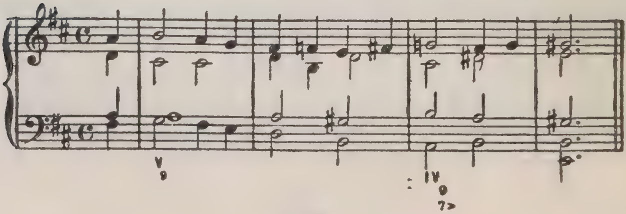


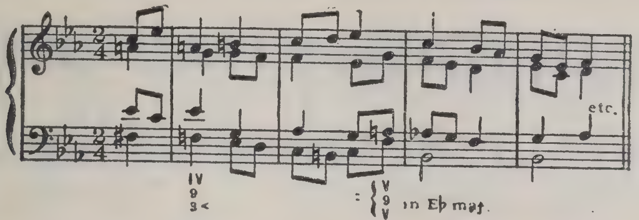
§10. Of much greater value are $\overset{13}{\mathrm{IV}^{9}_{7>}}$ and $\overset{27}{\left\{\begin{matrix}\mathrm{V}_9\\ \mathrm{V}\end{matrix}\right.}$ because their respective sounds are ambiguous with any V_9 of any major triad; but, on the other hand, their place in the cadences of the new key is rather circumscribed as they are only effective with the root in the bass.

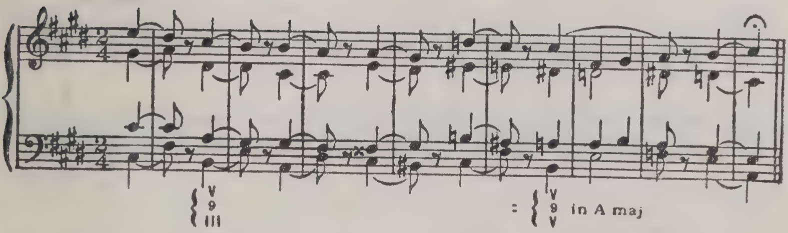
Their equivalents in major keys are: $\left\{\begin{matrix}\mathrm{V}_9,\\ \mathrm{IV}\end{matrix}\right.$ $\left\{\begin{matrix}\mathrm{V}_9,\\ \mathrm{V}\end{matrix}\right.$ $\left\{\begin{matrix}\mathrm{V}_9\\ \mathrm{VI}^{5>}_{1>}\end{matrix}\right.$, $\mathrm{IV}^{9}_{7>}$ (=V_9 of $\mathrm{VII}_{1>}$), V_9, $\left\{\begin{matrix}\mathrm{V}_9\\ \mathrm{N6}\end{matrix}\right.$ (an extension of $\left\{\begin{matrix}{}^{6}_{5}\\ \mathrm{V}\end{matrix}\right.$), $\left\{\begin{matrix}\mathrm{V}_9\\ \mathrm{III}^{5>}_{1>}\end{matrix}\right.$, and in minor keys: $\left\{\begin{matrix}\mathrm{V}_9,\\ \mathrm{VI}\end{matrix}\right.$ $\mathrm{IV}^{9}_{3<}$, $\left\{\begin{matrix}\mathrm{V}_9,\\ \mathrm{N6}\end{matrix}\right.$ $\left\{\begin{matrix}\mathrm{V}_9.\\ \mathrm{III}\end{matrix}\right.$











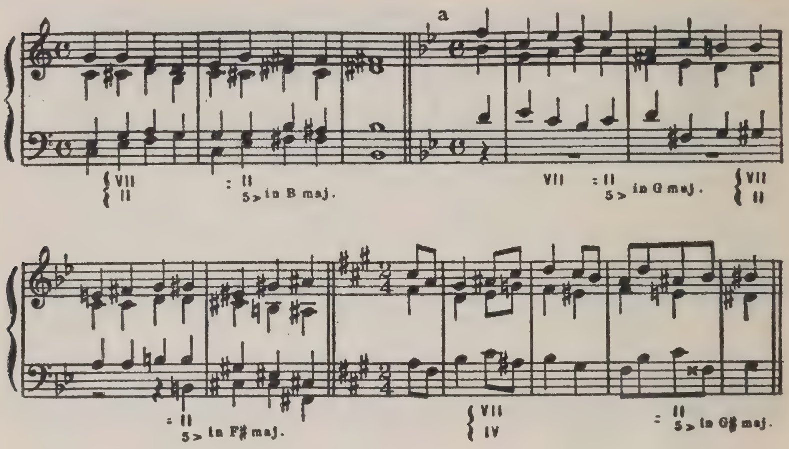
15

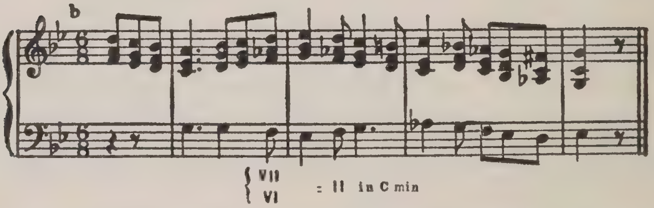
§11. The $\text{II}_{5>}$ is a diminished triad and, nowadays, seldom used. Its value as a cadential harmony is not great, as its extension, the $\text{II}^{7}_{5>}$, is much more effective. Nevertheless diminished triads can be formed on any of the chromatic steps of both the major and minor tonalities, altho their legitimate place is really in three-part writing.

The diminished triad on the I in a major key must be regarded as $\left\{\begin{matrix}\text{VII}^{\circ}_{7}\\ \text{V}\end{matrix}\right.$ with omitted 3d, seldom VII° of N6, then: $\left\{\begin{matrix}\text{VII}^{\circ}_{7},\\ \text{II}\end{matrix}\right.$ $\text{II}_{5>}$, $\left\{\begin{matrix}\text{VII}^{\circ},\\ \text{III}\end{matrix}\right.$ $\left\{\begin{matrix}\text{VII}^{\circ}.\\ \text{IV}\end{matrix}\right.$ The one on the 4th degree of the scale can only be considered as VII°_{7} of the I, with omitted 3d, then: $\left\{\begin{matrix}\text{VII}^{\circ},\\ \text{V}\end{matrix}\right.$ $\left\{\begin{matrix}\text{VII}^{\circ}_{7},\\ \text{II}\end{matrix}\right.$ with omitted 3d, (possibly $\left\{\begin{matrix}\text{VII}^{\circ}\\ \text{VI}^{5>}_{1>}\end{matrix}\right.$), $\left\{\begin{matrix}\text{VII}^{\circ},\\ \text{VI}\end{matrix}\right.$ $\left\{\begin{matrix}\text{VII}^{\circ}\\ \text{VII}_{1>}\end{matrix}\right.$ (this also permits of various interpretations), and VII°.

The diminished triads in the minor key are to be accounted for as follows: The one on the I: the same as in major; the one on the lowered 2d is part of $\left\{\begin{matrix}\text{VII}^{\circ}_{7},\\ \text{IV}\end{matrix}\right.$ then II, $\left\{\begin{matrix}\text{VII}^{\circ}_{7}\\ \text{V}\end{matrix}\right.$ (with 5th omitted), $\left\{\begin{matrix}\text{VII}^{\circ},\\ \text{IV}\end{matrix}\right.$ VII°_{7} (with 3d omitted), $\left\{\begin{matrix}\text{VII}^{\circ},\\ \text{V}\end{matrix}\right.$ $\left\{\begin{matrix}\text{VII}^{\circ}\\ \text{VI}\end{matrix}\right.$ (or $\left\{\begin{matrix}\text{VII}^{\circ}_{7}\\ \text{IV}\end{matrix}\right.$ without root), VII°_{7} (5th omitted), $\text{VI}_{1<}$ (or $\left\{\begin{matrix}\text{VII}^{\circ}\\ \text{VII}_{1>}\end{matrix}\right.$), $\left\{\begin{matrix}\text{VII}^{\circ}\\ \text{IV}\end{matrix}\right.$ (3d omitted), VII°.

These are mentioned principally in order to "complete the record". A few illustrations follow:



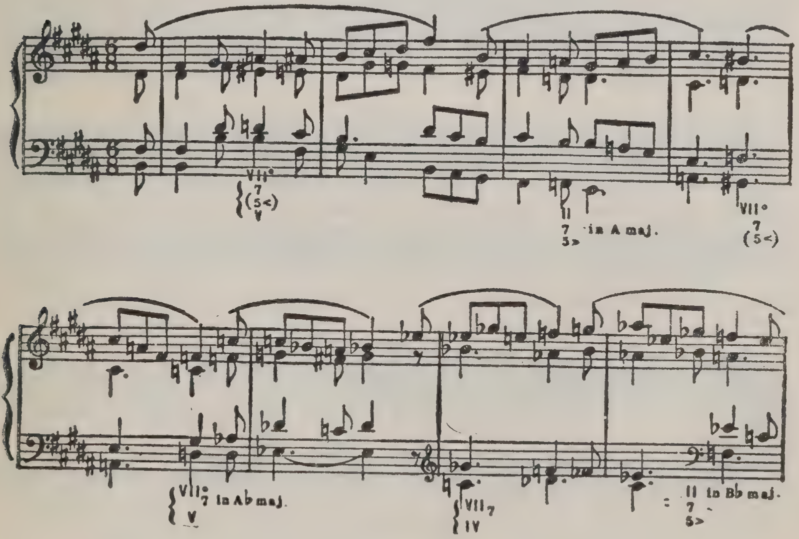


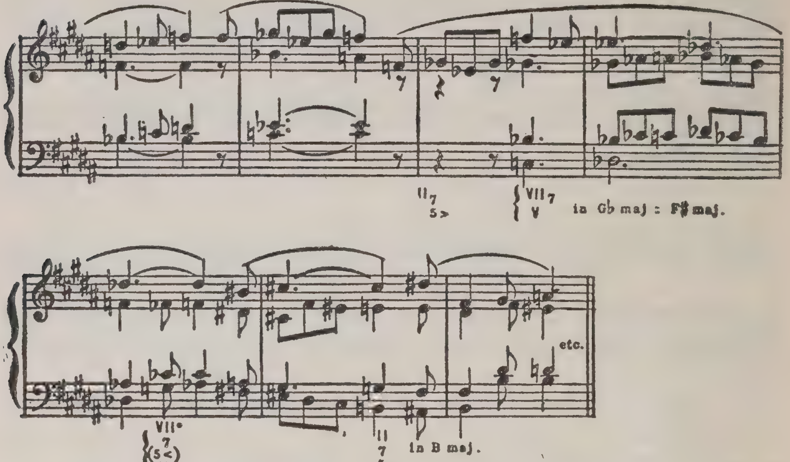
The example at a contains two modulations; the one marked b shows a modulation from G minor to C minor, instead of into C major. It is really out of place, but $II_{5>}$ is so essentially a cadential harmony of minor keys that I am perfectly willing to admit that all the examples furnished for this paragraph would have led much more smoothly into minor than into major. The student should prove this to his own satisfaction by substituting the parallel minor key for the major into which these modulations lead.

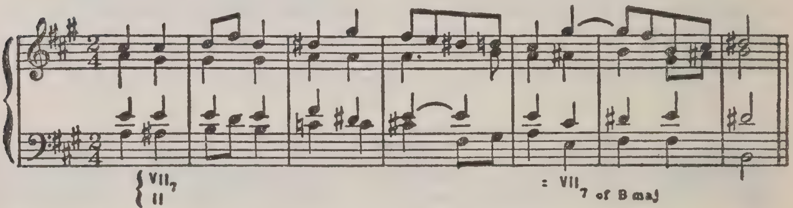
§12. $\overset{16}{II^{7}_{5>}}$, $\overset{22}{VII_{7}}$ and $\overset{28}{\left\{\begin{matrix}VII_{7}.\\V\end{matrix}\right.}$ The cadential values of the first and third chords are indisputably great, but VII_7 possesses little of IV quality; its character is too strongly V, and is here only mentioned as a possibility. The beauty of sound of their harmonic equivalents is of such surpassing interest that the student should become thoroughly acquainted with them, as they furnish iridescent harmonic colors for all modern composers. Their equivalents in major and minor are given in the order of the

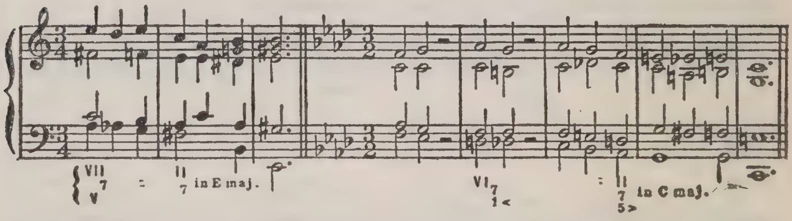
chromatic steps, $\begin{cases}\text{VII}_7\\ \text{N6}\end{cases}$ or still better $\begin{cases}\text{VII}^{\circ}_{7(5<)}\\ \text{V}\end{cases}$ (in C major, C-E♭-F♯-$\genfrac{}{}{0pt}{}{(\text{B}\flat)}{\text{A}\sharp}$), $\begin{cases}\text{VII}_7\\ \text{II}\end{cases}$, $\text{II}^{7}_{5>}$, $\begin{cases}\text{VII}_7\\ \text{IV}\end{cases}$, $\text{VII}^{\circ}_{7(5<)}$ (in C major, F-A♭-B-$\genfrac{}{}{0pt}{}{(\text{E}\flat)}{\text{D}\sharp}$), $\begin{cases}\text{VII}_7\\ \text{V}\end{cases}$ $\begin{cases}\text{VII}_{7(5<)}\\ \text{II}\end{cases}$ (in C major G-B♭-C♯-F) which may also be considered $\begin{cases}\text{VII}_7\\ \text{VI}^{5>}_{1>}\end{cases}$, $\text{VI}^{7}_{5>}$, $\begin{cases}\text{VII}^{\circ}_{7(5<)}\\ \text{IV}\end{cases}$ in C major B♭-D♭-E-$\genfrac{}{}{0pt}{}{(\text{A}\flat)}{\text{G}\sharp}$) and VII_7.

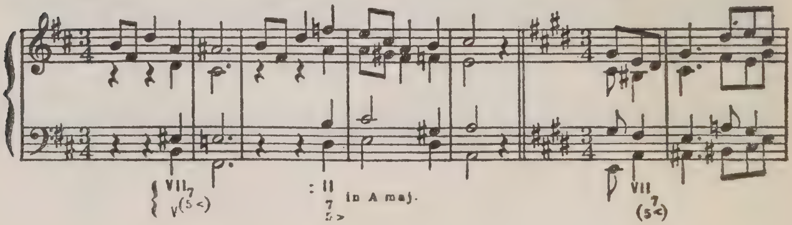
In minor keys: $\begin{cases}\text{VII}_7\\ \text{N6}\end{cases}$, or $\begin{cases}\text{VII}^{\circ}_{7(5<)}\\ \text{V}\end{cases}$, II_7, $\begin{cases}\text{VII}_7\\ \text{IV}\end{cases}$ (just a possibility, because the 7th should be diminished), $\text{VII}^{\circ}_{7(5<)}$ (F-A♭-B-E♭), $\begin{cases}\text{VII}_7\\ \text{V}\end{cases}$ (also only a possibility), $\begin{cases}\text{VII}_7\\ \text{VI}\end{cases}$, $\text{VI}^{7}_{1<}$, $\begin{cases}\text{VII}^{\circ}_{7(5<)}\\ \text{IV}\end{cases}$, VII_7 (again only a possibility as the 7th should be diminished). The raised 5th mentioned in many of these chords is of course in most cases to be written as a substitute tone for the 5th of a V. (See chapter on chords with raised 5th. If the explanations given there are understood, the chords mentioned in this paragraph should not prove perplexing.)

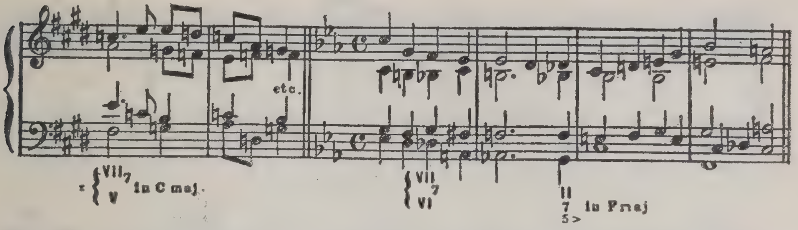



II 7 5>
VII 7 / V in G♭ maj : F♯ maj.
VII° 7 (5<) II
II 7 5> in B maj.
etc.


VII 7 / II
: VII 7 of B maj


VII 7 / V
: II 7 in E maj.
VI 7 1<
: II 7 5> in C maj.


VII 7 / V (5<)
: II 7 5> in A maj.
VII 7 (5<)

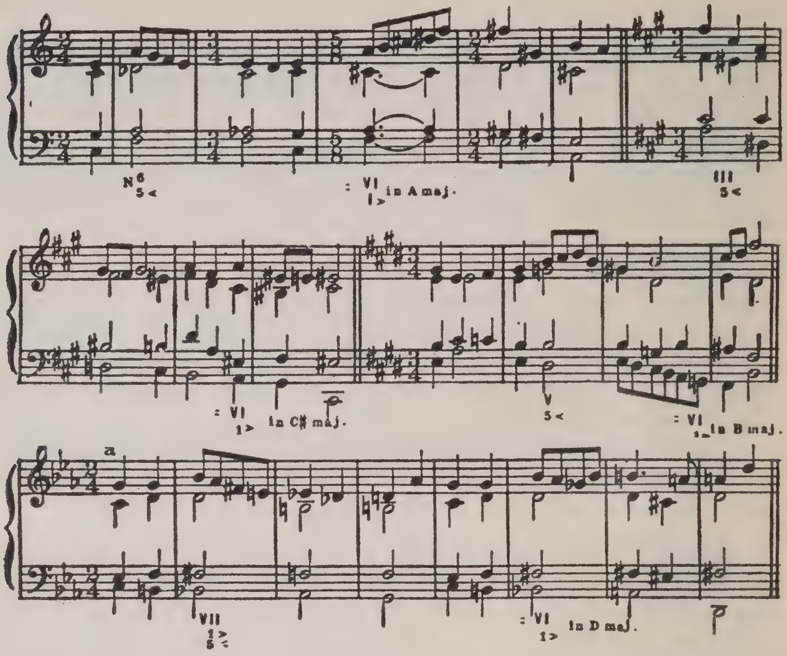

etc.
z $\begin{cases}\text{VII}_7\\ \text{V}\end{cases}$ in C maj.
$\begin{cases}\text{VII}\\ \text{VI}\end{cases}{}^7$
II 7 5> in F maj

The first example, beginning in B major, modulates through four keys, finally returning to B major. While it is rather loosely constructed, it nevertheless maintains a certain unity of thought through the reiteration of motives. In order to comprehend the construction, the student must carefully observe the indicated phrasing.

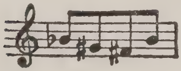
The occasional use of melodic tones, as well as the addition of "voices" should not call for further explanation as the character of some examples is more instrumental than vocal.

Lesson: The modulatory possibilities of the harmonies mentioned in §12 being exceptionally prolific and of unvarying interest, the student should make them the basis of a separate lesson. Their uses as $\text{II}^7_{5>}$ and $\begin{cases}\text{VII}_7\\ \text{V}\end{cases}$ should be emphasized, VII_7 being of little value. The latter is illustrated in the example marked **a.**

§13. The $\overset{17}{\text{VI}}_{1>}$, an augmented triad, has only restricted cadential value because the tonic elements are almost more pronounced than those of the subdominant. Yet it has become an important member of the modern harmonic system, principally on account of its adaptability to the needs of the whole tone scale, and furthermore, it has many harmonic equivalents, both in the major and minor tonalities. Those in major are: $\text{I}_{5<}$ with its ambiguous sound of $\text{VI}_{1>}$, $\text{N6}_{(5<)} = \text{IV}_{5<}$, $\text{III}_{1>} = \text{V}_{5<}$, $\begin{cases}\text{V}_{5<}\\ \text{V}\end{cases} = \text{VII}^{5<}_{1>}$. (It must be remembered that all augmented triads represent V formations with 5< or substitutional tones of the various major or minor triads contained in the key; these were mentioned in the chapter devoted to transition.) Those in minor are: $\text{N6}_{(5<)}$, $\text{III}_{5<}$, $\text{VI}_{5<}$, $\text{VII}^{1>}_{5<}$. (These also represent V formations with 5<, or substitutional tones, of all the minor and major triads of the minor tonality.)



The harmonic and melodic elusiveness of the whole tone scale is evident in several of these examples. The notation of these is often governed by practical considerations. For instance, in the example marked a, the soprano in measure 6 should have been notated according to the key of D major:

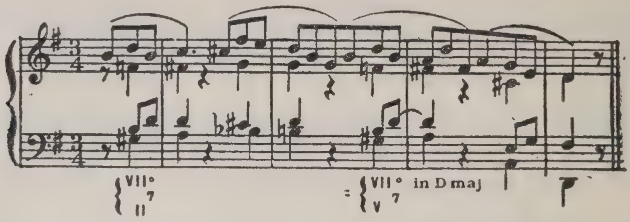


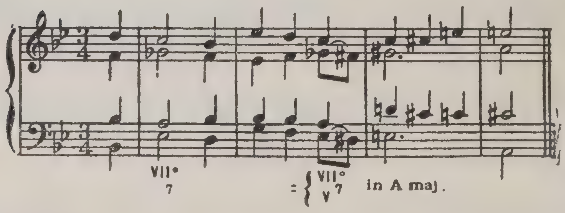
into which the $\mathrm{VI}_{1>}$ leads, but the adopted notation is more easily read.

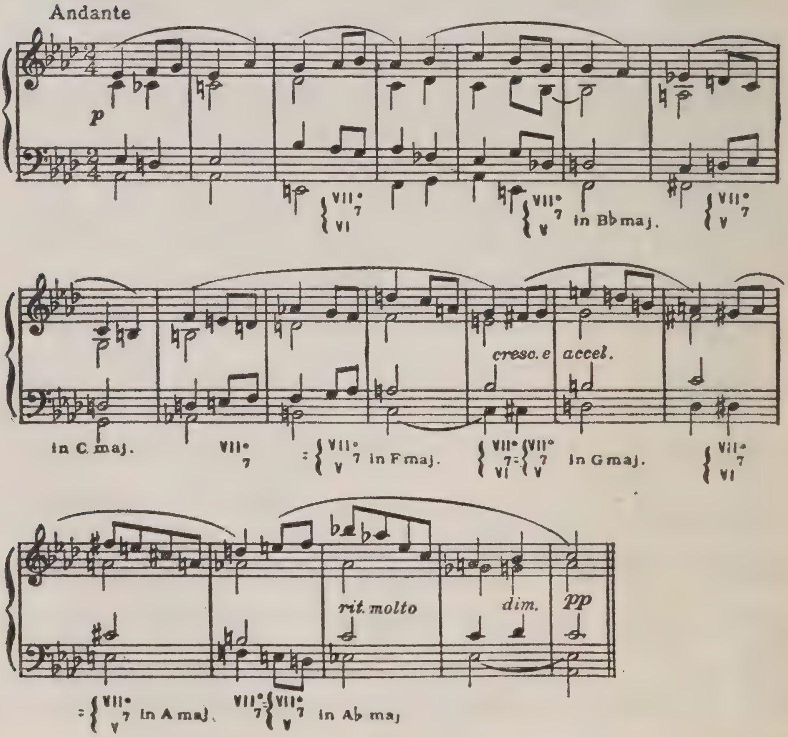
§14. $\overset{21}{\mathrm{VII}^{\circ}_{7}}$ and $\overset{30}{\left\{\begin{matrix}\mathrm{VII}^{\circ}_{7}.\\ \mathrm{V}\end{matrix}\right.}$ The VII°_{7} of the key is not a particularly strong IV formation as its fundamental character is principally that of V_9 without root and the cadences which are based on this harmony are rather weak. (The use of its enharmonic qualities for the preparation of a key, which is finally established by means of an added cadence, is of course important, as has been pointed out previously.) On the other hand the $\left\{\begin{matrix}\mathrm{VII}^{\circ}_{7}\\ \mathrm{V}\end{matrix}\right.$ furnishes a most effective IV element, in fact, perhaps the most important one because of the great ambiguity of all VII°_{7} chords. Every VII°_{7} chord can be accounted for in any tonality, minor as well as major, and if used as $\begin{cases}\text{VII}^{\circ}_{7}\\ \text{V}\end{cases}$ in the cadence of the new key, almost unlimited modulatory possibilities result. Any two keys may be effectively connected by means of a VII°_{7} chord becoming $\begin{cases}\text{VII}^{\circ}_{7}.\\ \text{V}\end{cases}$ A few concrete examples will readily prove this assertion. The VII°_{7} chords possible in a major key are: $\begin{cases}\text{VII}^{\circ}_{7},\\ \text{N6}\end{cases}$ much more frequently used in its enharmonic forms as $\begin{cases}\text{VII}^{\circ}_{7}\\ \text{V}\end{cases}$ or $\begin{cases}\text{VII}^{\circ}_{7},\\ \text{III}\end{cases}$ $\begin{cases}\text{VII}^{\circ}_{7}\\ \text{VII}_{1>}\end{cases}$; $\begin{cases}\text{VII}^{\circ}_{7}\\ \text{II}\end{cases}$ equals also $\begin{cases}\text{VII}^{\circ}_{7}\\ \text{IV}\end{cases}$ and $\begin{cases}\text{VII}^{\circ}_{7}\\ \text{VI}^{5>}_{1>}\end{cases}$; $\begin{cases}\text{VII}^{\circ}_{7}\\ \text{III}^{5>}_{1>}\end{cases}$ equals $\begin{cases}\text{VII}^{\circ}_{7}\\ \text{VI}\end{cases}$ and $\begin{cases}\text{VII}^{\circ}_{7}.\\ \text{I}\end{cases}$

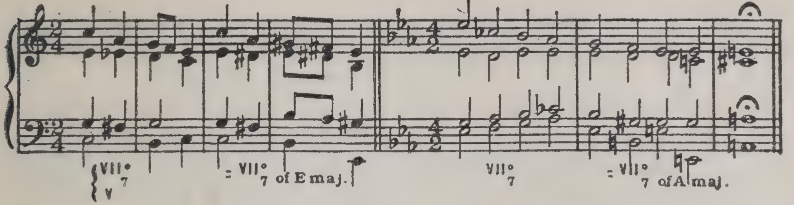
The VII°_{7} chords possible in a minor key are: $\begin{cases}\text{VII}^{\circ}_{7}\\ \text{N6}\end{cases}$ equals $\begin{cases}\text{VII}^{\circ}_{7}\\ \text{V}\end{cases}$ and $\begin{cases}\text{VII}^{\circ}_{7}\\ \text{VII}_{1>}\end{cases}$; $\begin{cases}\text{VII}^{\circ}_{7}\\ \text{III}\end{cases}$ equals VII°_{7}; $\begin{cases}\text{VII}^{\circ}_{7}\\ \text{IV}\end{cases}$ equals $\begin{cases}\text{VII}^{\circ}_{7}.\\ \text{VI}\end{cases}$ All these VII°_{7} chords mentioned are integral parts of the tonalities and those apparently omitted belong to major and minor triads not directly connectable with a given tonality. The order in which they appear is not attributable to their importance but is based on the roots, as they occur in a certain scale, beginning on the first step; the added enharmonic equivalents have been given in order to avoid needless repetition.

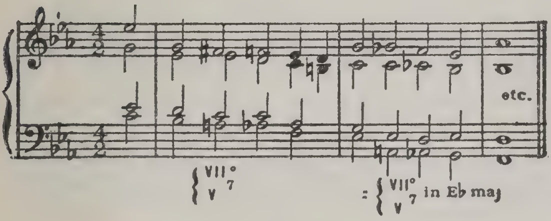
Supposing a modulation is desired from A major to B♭ major or minor, we find that the $\begin{cases}\text{VII}^{\circ}_{7}\\ \text{V}\end{cases}$ in B♭ major and minor is E-G-B♭-D♭, which has as equivalents in A major $\begin{cases}\text{VII}^{\circ}_{7},\\ \text{IV}\end{cases}$ C♯-E-G-B♭, also $\begin{cases}\text{VII}^{\circ}_{7},\\ \text{II}\end{cases}$ A♯-C♯-E-G—possibly $\begin{cases}\text{VII}^{\circ}_{7}.\\ \text{VI}^{1>}_{5>}\end{cases}$—Or: from F minor to B major or B minor: $\begin{cases}\text{VII}^{\circ}_{7}\\ \text{V}\end{cases}$ in B is E♯-G♯-B-D—equals in F minor the $\begin{cases}\text{VII}^{\circ}_{7},\\ \text{V}\end{cases}$ B-D-F-A♭, or $\begin{cases}\text{VII}^{\circ}_{7}\\ \text{VII}_{1>}\end{cases}$, D-F-A♭-C♭, and possibly $\begin{cases}\text{VII}^{\circ}_{7},\\ \text{N6}\end{cases}$ F-A♭-C♭-E♭♭. The foregoing comparisons should be sufficient to guide the student in the work to be done in the next lesson and it will become even more comprehensible if he will carefully play and analyze the following examples.

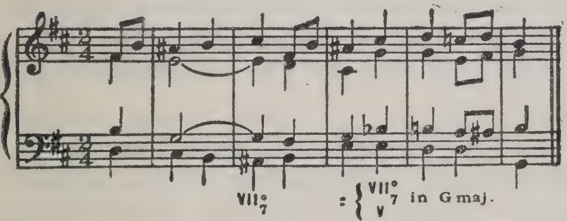

VII°
7
II
= VII° 7
V in D maj

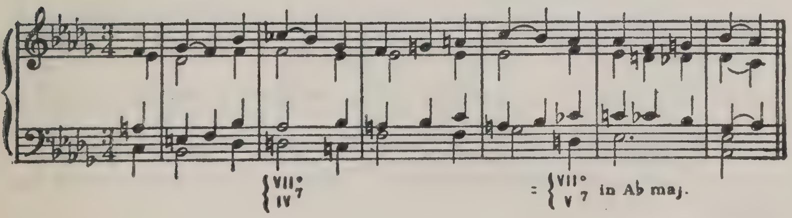

VII°
7
= VII° 7
V in A maj.

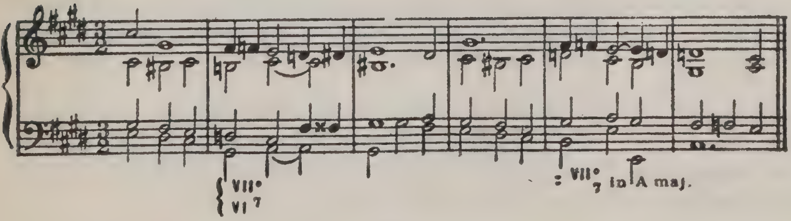

Andante
p
VII° 7
VI
VII° 7
V in B♭ maj.
VII° 7
V
in C maj.
VII° 7
= VII° 7
V in F maj.
VII° 7
VI = VII° 7
V in G maj.
VII° 7
VI
cresc. e accel.
rit. molto
dim.
pp
= VII° 7
V in A maj.
VII° 7 = VII° 7
V in A♭ maj


VII° V 7
= VII°7 of E maj.
VII°7
= VII°7 of A maj.


etc.
VII° V 7
= VII° V 7 in E♭ maj


VII°7
= VII° V 7 in G maj.


VII° IV 7
= VII° V 7 in A♭ maj.


VII° VI 7
= VII°7 in A maj.

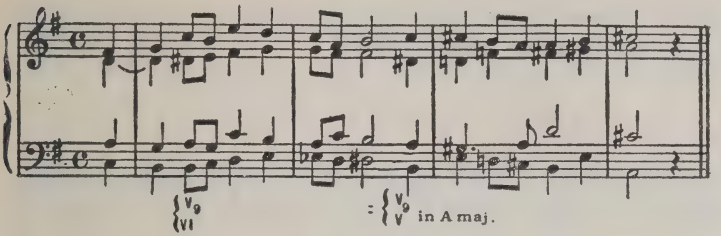
The first example illustrates a most popular modulation into the key of the dominant by means of $\left\{\begin{matrix}\text{VII}^{\circ}_{7}\\ \text{II}\end{matrix}\right. = \left\{\begin{matrix}\text{VII}^{\circ}_{7}.\\ \text{V}\end{matrix}\right.$ The second one, a modulation into a far removed key, shows the smoothness with which it may be accomplished, altho the chord A-C-E♭-G♭ must be thought of in A major as D♯-F♯-A-C; here, again, is a case where the notation is governed by practical considerations. The third example, in A♭ major, demonstrates the modulatory powers of the VII°_{7} used as $\left\{\begin{matrix}\text{VII}^{\circ}_{7}\\ \text{V}\end{matrix}\right.$ in condensed form; the added analysis is self-explanatory. The 8th measure ends with the V in C; but not until the 9th measure, where the E♮ is used as a passing-tone, does the key of C major become apparent. The VII°_{7} in measure 16 is written as it occurs in A♭ major, its equivalent in A major being G♯-B-D-F. The next two examples show the use of the VII°_{7} as a IV formation in the cadences of the keys into which the modulation takes place. The remaining examples illustrate modulations from a minor tonic to any major key in which a VII°_{7} chord becomes either $\left\{\begin{matrix}\text{VII}^{\circ}_{7}\\ \text{V}\end{matrix}\right.$ or VII°_{7} of the I.

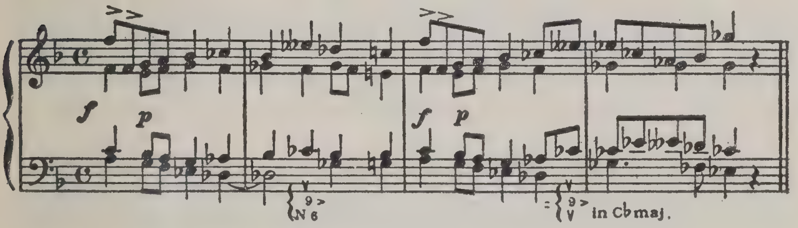
Lesson: The work demanded, on the basis of the chords mentioned in §§ 13 and 14, is of greatest importance and should be thoroughly illustrated. Its comprehension makes possible the solution of many problems met in modern compositions. Do not neglect keyboard work!

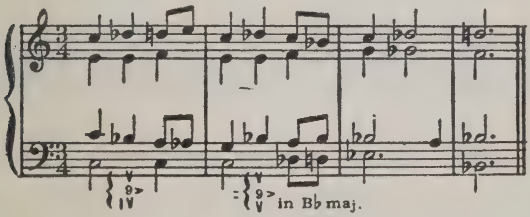
§14a. Every major and minor triad, in both major and minor tonalities, may claim a $\text{V}_{9>}$ of its own. Therefore modulations in which any $\text{V}_{9>}$ becomes a $\left\{\begin{matrix}\text{V}_{9>}\\ \text{V}\end{matrix}\right.$ produce a rather charming effect. The chords themselves are, of course, rather restricted, the root position being of greatest value. The 5th should be omitted.

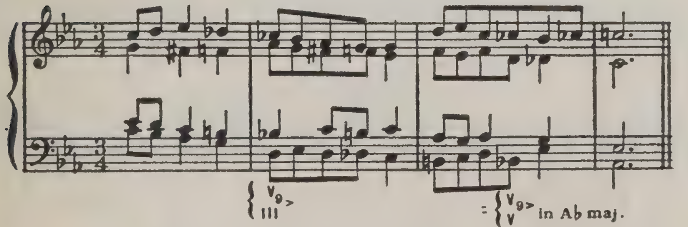
29

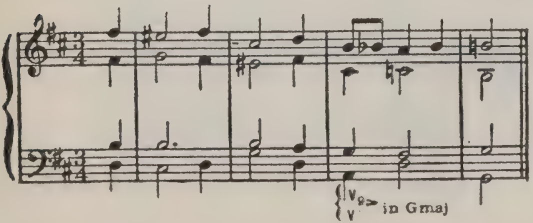
$\text{V}_{9>}$ chords in the major tonality are possible as $\text{V}_{9>}$ of IV, of V, $\text{VI}^{5>}_{1>}$, VI, $\text{VII}_{1>}$, I, N6 (an extension of the enharmonically changed $\left\{\begin{matrix}{}^{6}_{5})\\ \text{V}\end{matrix}\right.$, II, $\text{III}^{5>}_{1>}$ and III. Some of these are rather far removed from the center of the tonality, but by no means impossible if skillfully introduced, and all have been mentioned in the chapter on "transition." Those possible in a minor tonality are limited to $\text{V}_{9>}$ of IV, V, VI, $\text{VII}_{1>}$, I and III.


V9
VI
= V9
V in A maj.


f
p
V
9>
N 6
f
p
= V
9>
V in C♭ maj.

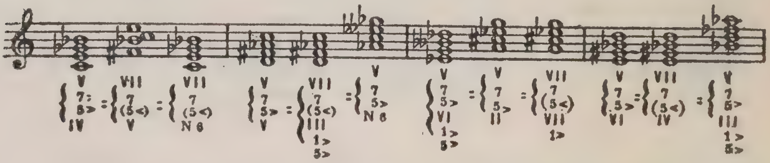

V
9>
IV
= V
9>
V in B♭ maj.

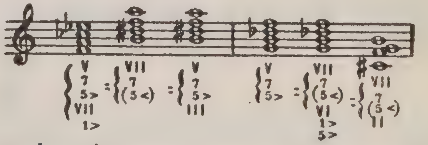

V9>
III
= V9>
V in A♭ maj.


V9>
V in G maj

Lesson: Invent a few modulations using $V_{9>}$ formations as $\left\{\begin{matrix}V_{9>}\\ V\end{matrix}\right.$ in the cadences of major keys.

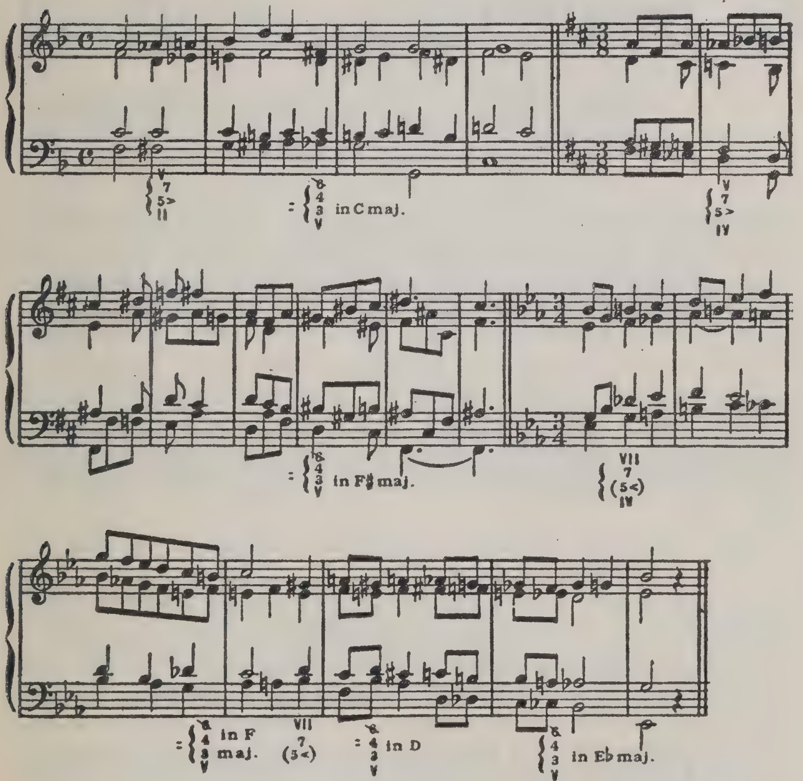
§15. The $\overset{33}{\left\{\begin{matrix}\substack{6\\4\\3}\\ V\end{matrix}\right.}$ presents another of those elusive harmonies, much in evidence in our present day music. As a cadential chord it is of unusual charm, altho perhaps more at home in minor than in major. The combination of its intervals makes it available for chromatic and whole tone progressions, and compositions based on whole tone scales furnish many illustrations of its various uses. It must be remembered that the chord is a V_7 with lowered 5th and it follows that all the V_7 sounds may be changed to $\overset{33}{\left\{\begin{matrix}\substack{6\\4\\3}\\ V\end{matrix}\right.}$ by merely lowering their 5ths chromatically. Inasmuch as such an alteration immediately produces the effect of an altered V_7 of I or an altered V_7 of V, it would seem as if their prototypes in the key from which the modulation is to be made were limited to those two chords. This can, however, be circumvented by following any V_7 sound, altered into an $\substack{6\\4\\3}$, by its unaltered form, or by avoidance of the alteration in the first key, using it only when the key change takes place. Besides many of these chords may be read as $VII^{7}_{(5<)}$ chords with raised 5th or substitutional tone. (Do not forget that this raised 5th is based on the fact that a VII_7 chord is a V_9 without root!) The following equivalents prove again the great ambiguity of these chords. They are, in C major:

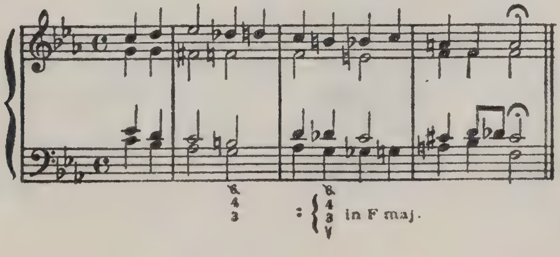


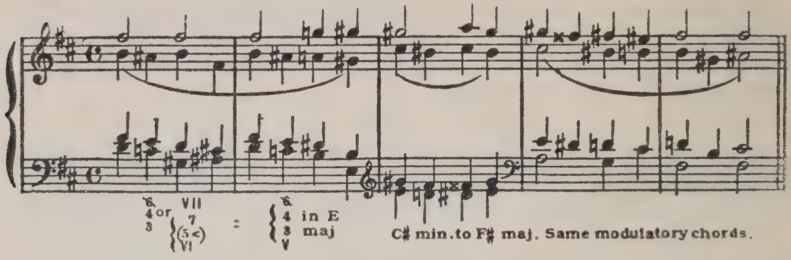


C minor contains the same harmonies except perhaps $\left\{\begin{matrix}V^{7}_{5>}\\ III_{5<}\end{matrix}\right.$

$\begin{cases} V^{7}_{5>} \\ VI^{5<}_{1<} \end{cases}$ because the supertonic, submediant and mediant harmonies taken from a major key can only be explained as melodic formations in the minor tonality.


V 7 5> II
: 8 4 3 V in C maj.
V 7 5> IV
: 8 4 3 V in F♯ maj.
VII 7 (5<) IV
: 8 4 3 V in F maj.
VII 7 (5<)
: 8 4 3 V in D
8 4 3 V in E♭ maj.


8 4 3
: 8 4 3 V in F maj.

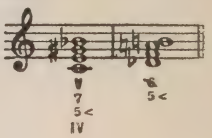


The first two examples prove the popularity of the $\left\{\begin{smallmatrix}6\\4\\3\\V\end{smallmatrix}\right.$ for modulation into the key of V and into the major key on the 3d of the scale. No. 3 deals with modulation from the key of E♭ major into F major, then from F major to D major, followed by a chromatic succession of $\begin{smallmatrix}6\\4\\3\end{smallmatrix}$ chords, utilizing the last one as $\left\{\begin{smallmatrix}6\\4\\3\\V\end{smallmatrix}\right.$ in E♭ major.

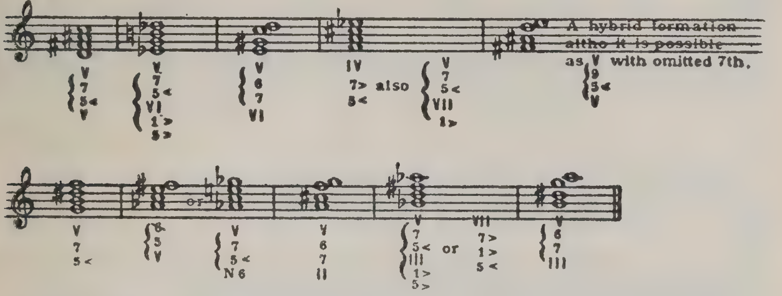
Of the two examples beginning in minor keys, the last one contains four established keys,—B minor, E major, C♯ minor and F♯ major. No modulation takes place from E major to C♯ minor: the latter key is taken for granted as it begins the second phrase, which proves nearly a sequential imitation of the first one.

§16. The last of the IV formations in major is that $\left\{\begin{smallmatrix}6\\5\\V\end{smallmatrix}\right.$ which is the result of an alteration of $\left\{\begin{smallmatrix}VII_7\\V\end{smallmatrix}\right.$; in the key of C major the chord is A♭-C-E♮-F♯, No. 34 in the list of IV formations. As its sound is that of a V_7 with raised 5th or substitutional tone, and as such sound can be formed on almost any of the 12 half steps of both major and minor scales, it also becomes one of the most practical as well as beautiful means of modulation. Besides, it again furnishes a basic harmony for the whole tone scale; its harmonic and melodic values having been explained in the chapter on "Chords with raised 5th". (Do not fail to renew your acquaintance with this chord by rereading what was said about its qualities in the chapter mentioned.)

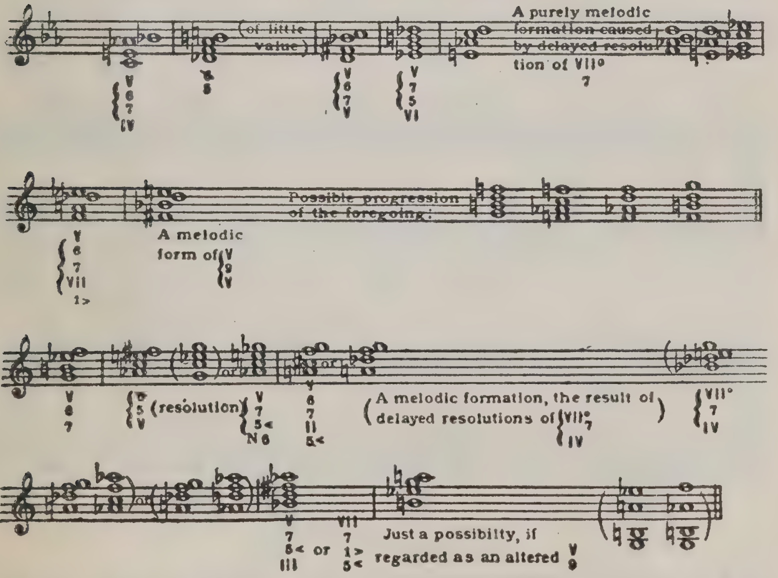
Chords of this sound in C major are:

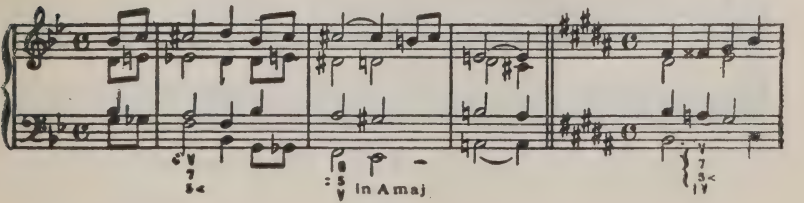


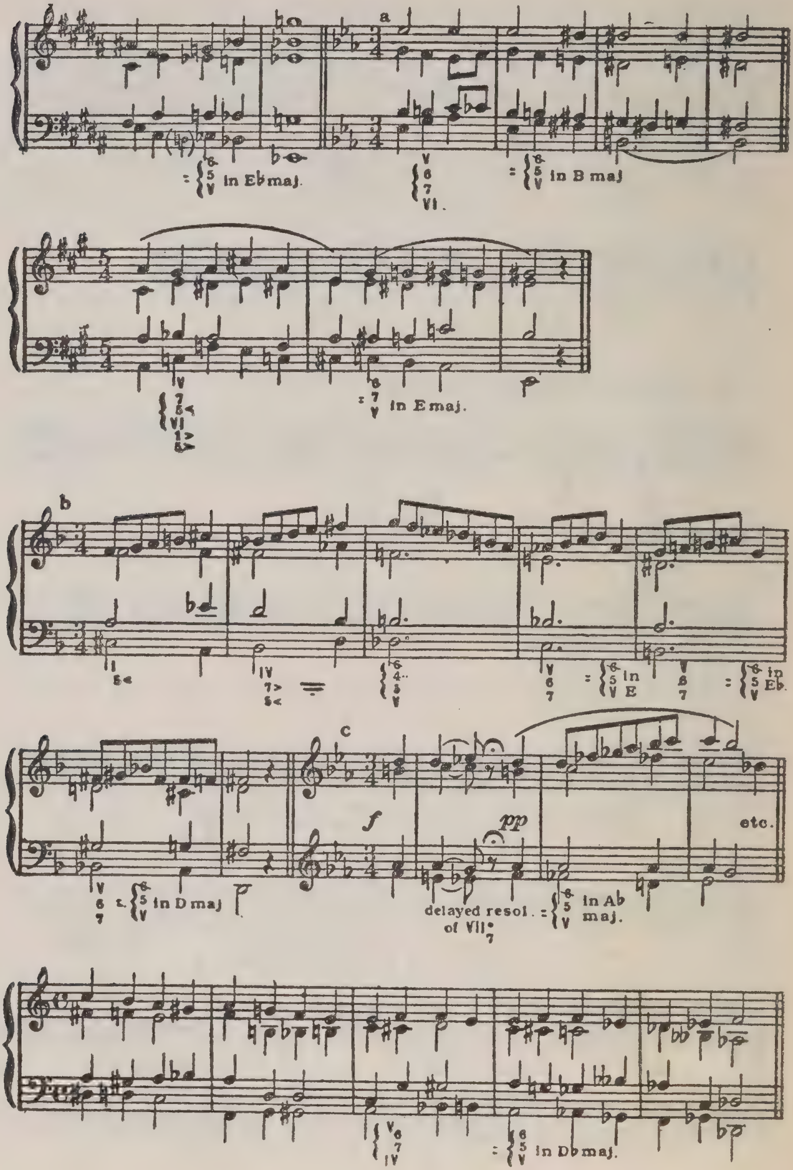
(the A♮ is an additional alteration, or it may be regarded as VII$_{7(5>)}$).


A hybrid formation altho it is possible as V with omitted 7th.
also
or

In C minor they are found as follows:


(of little value)
A purely melodic formation caused by delayed resolution of VII° 7
Possible progression of the foregoing:
A melodic form of V 9 V
(resolution)
or
A melodic formation, the result of delayed resolutions of VII°7 IV
Just a possibility, if regarded as an altered V 9




: 8 5 V in E♭ maj.
a
V 6 7 VI.
: 8 5 V in B maj
7 5< VI 1> 5>
IV
: 8 7 V in E maj.
b
1 5<
IV 7> 5<
6 4 3 V
V 6 7
: 8 5 V in E
V 8 7
: 8 5 V in E♭.
V 6 7
: 8 5 V in D maj
c
f
pp
delayed resol. of VII°7
: 8 5 V in A♭ maj.
etc.
V6 7 IV
: 6 5 V in D♭ maj.

The examples prove that the cadential position of this $\begin{cases}{}^6_5\\ \text{V}\end{cases}$ is rather restricted, nevertheless the modulatory effects are charming. In Ex. a the $\begin{cases}{}^6_5\\ \text{V}\end{cases}$ is written in both instances as V^6_7. The whole tone scales in b and c will be readily understood by the student.

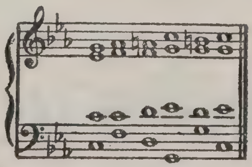
Lesson: Use $\begin{cases}{}^6_4\\ 3\\ \text{V}\end{cases}$ and $\begin{cases}{}^6_5\\ \text{V}\end{cases}$ in the cadences of the keys to be established.

MODULATIONS FROM MAJOR OR MINOR KEYS INTO MINOR TONALITIES

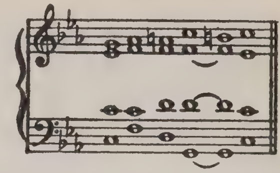
The process of modulation into a new minor key does not differ from the one leading into new major tonalities. During the latter work, I pointed out repeatedly that certain modulatory chords lent themselves better for a minor than for a major cadence, because certain IV formations are so intensely minor in character as almost to demand a minor I. This will be more fully proven in the following lessons.

The study of the table of IV formations available for cadences in minor (enumerated on page 360) shows the following conditions:

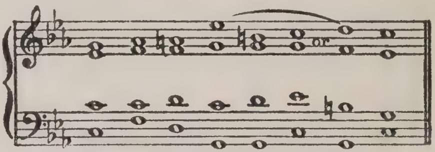
§17. The $\overset{1}{\text{IV}}$ chord and the $\overset{14}{\text{II}_{5<}}$ are minor triads. Of these, the first is far more effective than the second one. $\text{II}_{5<}$ is essentially a major IV formation; it contains the raised 6th of the minor scale as one of its intervals, which demands leading into either the raised or the natural 7th or into the natural 6th; this precludes the possibility of leading the chord into I^6_4, one of the most important factors in the construction of the new cadence. The following examples are perhaps the only noteworthy exceptions:



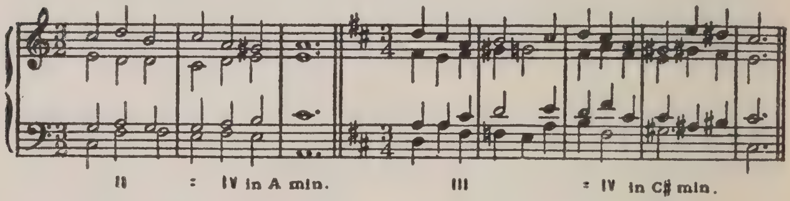
The explanation is that the progression of the A♮ to B♮ is delayed by means of an appoggiatura (C being considered an appoggiatura to B♮). This can be still further verified in the following variant:

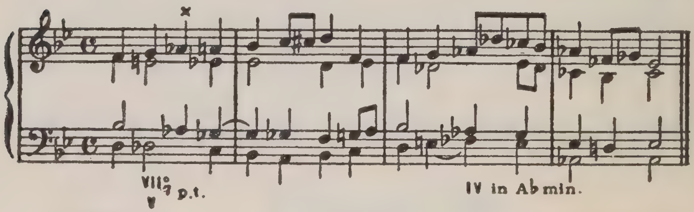


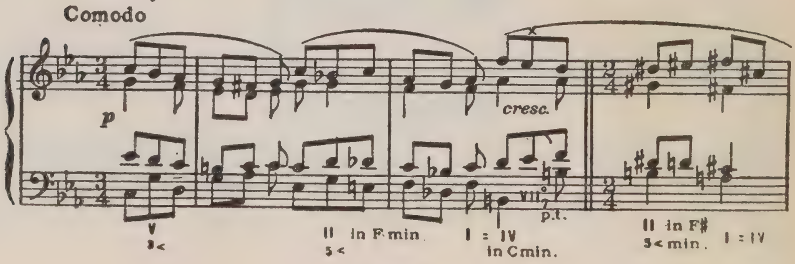
Even a skip into E♭ becomes possible as long as the A♮ is regarded as a melodic tone:

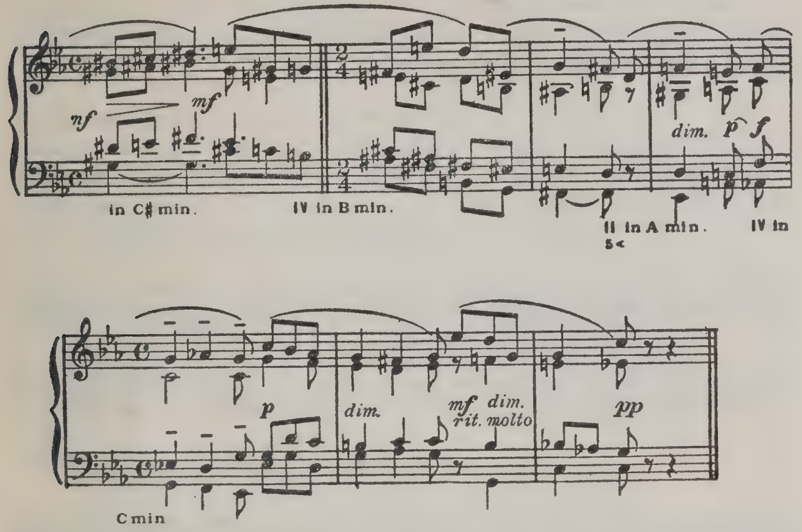


Every minor triad contained in the major and minor tonalities may then be utilized, as either IV or $II_{5<}$ in the cadence of the minor key to be established. All these have been enumerated and analyzed in §4.


II
:
IV in A min.
III
: IV in C♯ min.


×
VII°7 p.t.
V
IV in A♭ min.

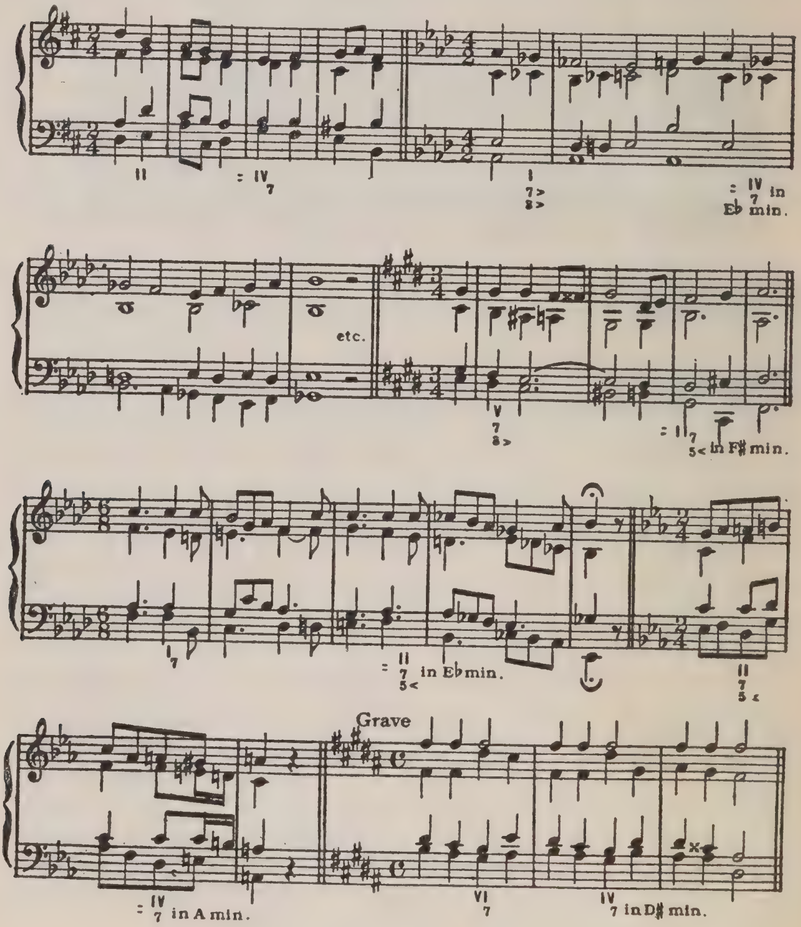

Comodo
p
×
cresc.
vii°7
p.t.
V
3<
II
5<
in F min.
I : IV
in C min.
II in F♯
5< min.
I : IV



The first example shows the most frequent use of II in major as IV in the relative minor key. The second one moves very smoothly from D major to C♯ minor; two keys which according to the older theorists are so far removed from each other as even to forbid their juxtaposition! Much the same may be said of No. 3. No. 4 is a rather whimsical conceit, moving restlessly through a number of keys, ending, as it began, in C minor. While some of the new keys are introduced with the new motive, even there modulatory chords can be accounted for. For instance: the E minor chord of the cadence in B minor is in C♯ minor Fx-A♯ $\hat{\text{B}}$ C♯-E,—VII$^{\circ}_{7}$ of V with A♯ and C♯ passing through B♮, and the F minor chord, ushering in the final C minor, is connected with the preceding A minor key through G♯-B $\hat{\text{C}}$ D-F, B and D passing through C. Be sure to observe the expression marks while playing this example! I also recommend that the student play over the following examples furnished with §4 but ending them in minor keys instead of major; this can easily be accomplished with slight changes in the final cadences. No. 1—C major to B♭ minor; No. 4—E♭ major to A minor; No. 8—A major to C minor. Change likewise the final cadences of numbers 9, 10, 11, 12, 14, 17, 18, 19.

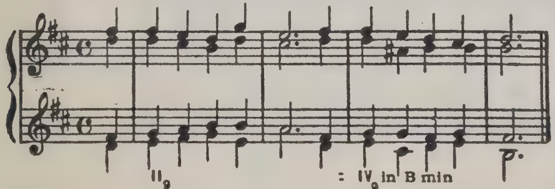
Lesson: Use IV and $\mathrm{II}_{5<}$ in the cadences of any minor key. Do not neglect to prove the modulatory harmony in the key in which the example begins.

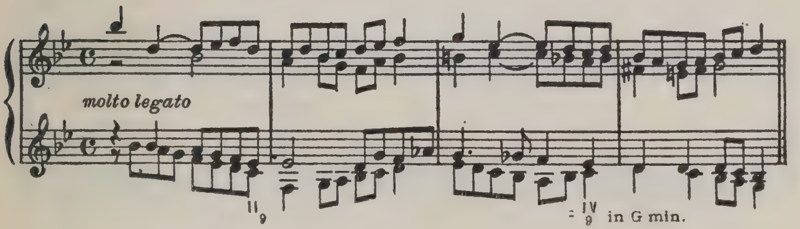
§18. $\overset{2}{\mathrm{IV}_7}$ and $\overset{15}{\mathrm{II}^7_{5<}}$ in the minor cadences. Of these IV_7 is much more satisfactory than $\mathrm{II}^7_{5<}$, the latter harmony being more at home in the cadences of major keys. Its awkward interval is again the raised 6th of the scale. (See §17.) Their prototypes in the major and minor tonalities have been mentioned in §5.


II
: IV 7
I 7> 8>
: IV 7 in Eb min.
etc.
V 7 8>
: II 7 5< in F# min.
I 7
: II 7 5< in Eb min.
II 7 5<
Grave
: IV 7 in A min.
VI 7
IV 7 in D# min.

None of the above examples need further explanation. The student must play examples 6, 7, 8, 9, 12, 13 and 17 given under §5, ending them in the respective parallel minor keys. Again, it will be found that slight alterations will be necessary in the final cadences.

§19. $\overset{3}{IV_9}$. This chord stands alone in the list of IV formations in the minor cadence, altho it is barely possible to introduce the same sound on the supertonic, naming it $II_{9<}$. This is, however, such a strong major formation, that its presence in the minor key can only be made tolerably plausible by chromatic "juggling," which explains why it is not listed. IV_9 in minor has only one equivalent sound and that is II_9 in major; the following examples therefore permit only of a modulation from a major to a minor key by changing II_9 in major to IV_9 in minor.

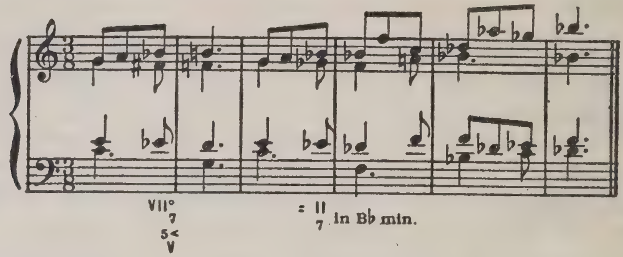


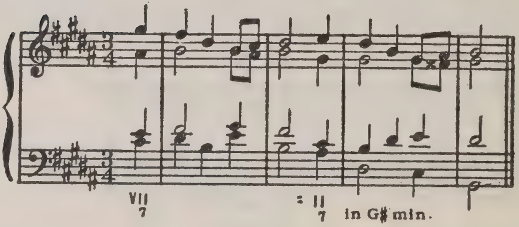


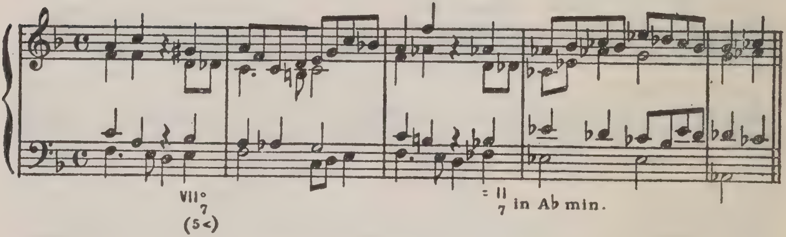
The element of contrapuntal leading is strongly emphasized in both examples, proving again that chords like II_9 and IV_9 are nothing but accidental melodic combinations.

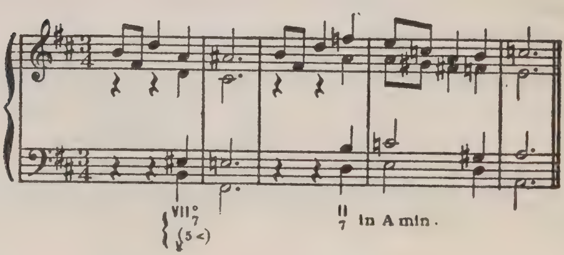
§20. $\overset{4}{II}$ is essentially a minor-tonality formation and everything concerning the chord has been said in §11. It needs no further comment nor are additional examples necessary.

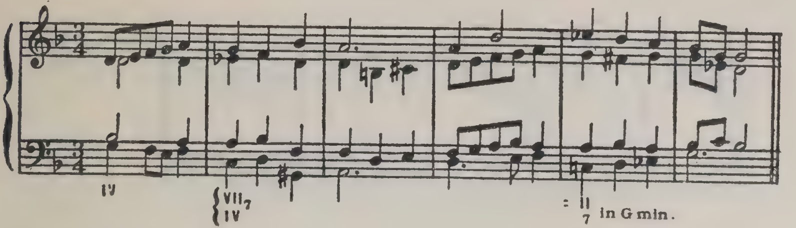
§21. $\overset{5}{II_7}$. In the major tonality we found three chords of the same sound; but $VII_{7<}$ and $\left\{\begin{matrix}VII_7\\V\end{matrix}\right.$ are not effective IV formations in the minor cadences and can easily be dispensed with. What was said concerning the three chords in §12 is, of course, equally applicable to the II_7 in minor; and the equivalents to be found in the major and minor tonalities are the same as mentioned there.


VII°
7
5<
V
= II
7 in B♭ min.


VII
7
= II
7 in G♯ min.


VII°
7
(5<)
= II
7 in A♭ min.

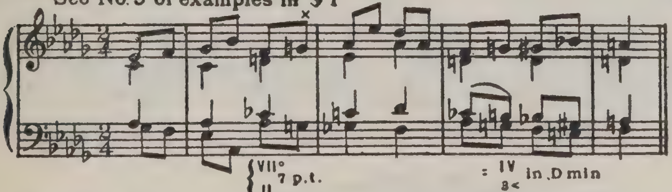

VII°
7
(5<)
V
II
7 in A min.



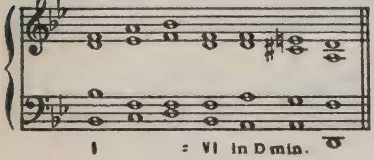
Lesson: Illustrate the modulatory possibilities of the chords analyzed in §§ 18, 19, 20, and 21.

§22. Major triads which may be used as IV formations in the cadences of minor keys are $\overset{6}{\mathrm{VI}}$, $\overset{7}{\mathrm{N6}}$, $\overset{12}{\mathrm{IV}_{3<}}$ and $\overset{16}{\begin{cases}\mathrm{V.}\\ \mathrm{V}\end{cases}}$ Of these the N6 is the most effective, as it is essentially a creation of the minor tonality. VI is good, but contains strong I elements, IV$_{3<}$ is really the IV in the major key; the 3< is the raised 6th degree of the minor scale, limited in movement; and $\begin{cases}\mathrm{V}\\ \mathrm{V}\end{cases}$ lacks charm of sound. Do not fail to reread §§ 1 and 2, where these chords have been more fully analyzed and where, also, their harmonic equivalents in both tonalities have been enumerated. Also play examples — 3, 4, 5 and 8, illustrating §1, changing the endings from major into minor. Every one of the examples in §2 permits of minor endings. The following illustrate just a few of these changed endings.

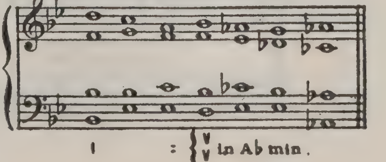
See No. 5 of examples in §1



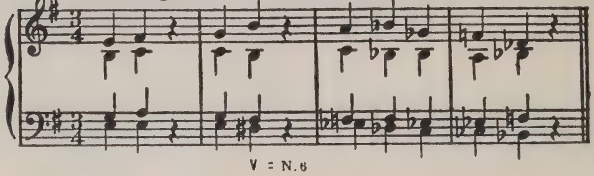
See No. 1 §2



See No. 2 §2

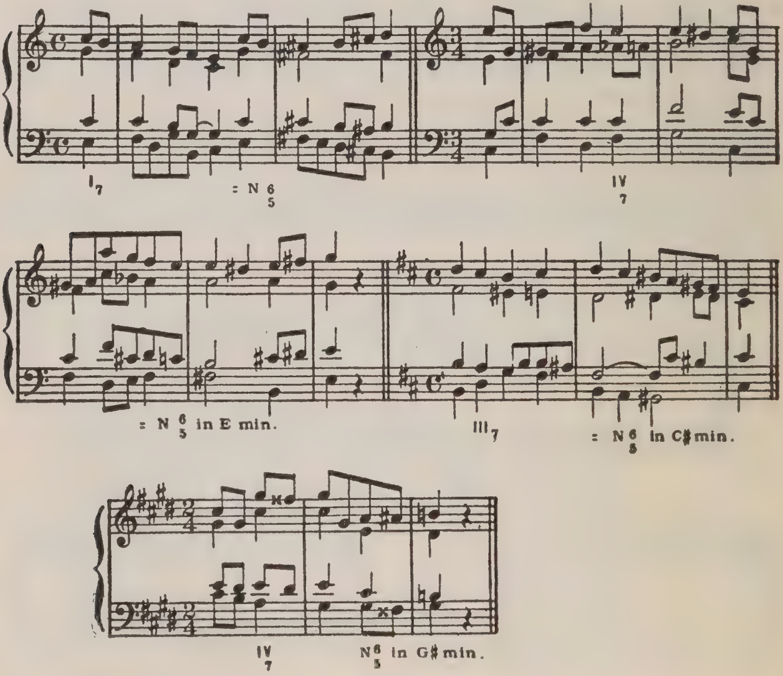


No. 8 §2



Lesson: Write a few modulations illustrating the use of the major triads, mentioned in §22, as IV formations in the cadences of the new minor keys to be established.

§23. The $\overset{8}{N}{}^6_5$ may, in spite of its strong dissonant character, be used very effectively for the purpose of modulation. There are no other sounds like it in the group of IV formations in the minor keys, but it has several equivalent combinations in both the major and the minor tonalities. These are to be found in §3.

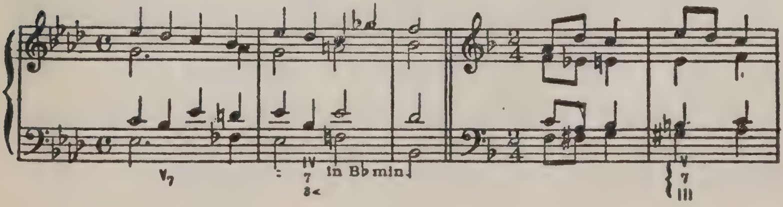


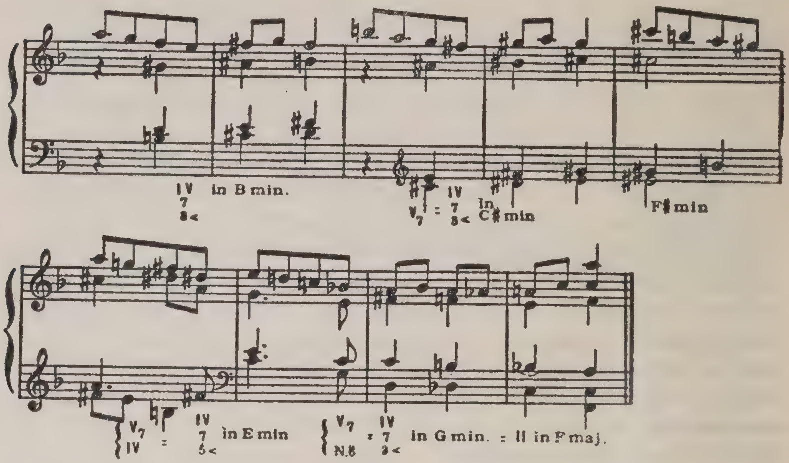
Also play and change the endings of examples 7, 8, 9, and 10 furnished for §3.

§24. The $\overset{9}{\mathrm{VII}^{\circ}_{7}}$ of the key and the $\overset{19}{\left\{\begin{matrix}\mathrm{VII}^{\circ}_{7} \\ \mathrm{V}\end{matrix}\right.}$ as IV formations in the cadences of major keys have been so thoroughly analyzed and illustrated in §14, that nothing of importance can be added in explanation of their use in the cadences of minor tonalities. The student must play all the examples furnished for §14 and change their final cadences so as to make endings in the parallel minor keys possible. The third example might prove somewhat of a problem, because the modulations will have to be made into B♭ minor, C minor, F minor, G minor and A minor, with an ending in either A♭ minor or A♭ major. It might be well to **rewrite** this example as it will accustom the eye as well as the ear, to these key changes.

Lesson: Write some of the modulations according to §§23 and 24.

§25. $\overset{10}{\mathrm{VII}^{\circ 7}_{3>}}$ (= $\left\{\begin{matrix}{}^{6}_{5} \\ \mathrm{I}\end{matrix}\right.$), $\overset{11}{\mathrm{VII}^{7}_{1>}}$, $\overset{13}{\mathrm{IV}^{7}_{3<}}$, $\overset{17}{\left\{\begin{matrix}\mathrm{V}_{7}, \\ \mathrm{V}\end{matrix}\right.}$ $\overset{21}{\left\{\begin{matrix}{}^{6}_{5} \\ \mathrm{V}\end{matrix}\right.}$ and $\overset{20}{\left\{\begin{matrix}6 \\ \mathrm{V}\end{matrix}\right.}$ all equal the sound of a V_7, yet they are most effective representations of the IV sound in the cadences. (See §8.) The weakest of these is the $\mathrm{IV}^{7}_{3<}$, on account of the limited leading of its raised 3d. The examples below deal exclusively with this chord. No new illustrations showing the use of any of the other harmonies are necessary as the student may change the endings of any of the examples furnished with §8. No. 1 in §8 demands more reconstruction than any of the others because the leading of the chord C-E♮-G-B♭ into the I^{6}_{4} of G minor is rather clumsy, the E♮ claiming for succeeding tones either an F♯ or E♭.





The little fragment of a composition, beginning in F major, modulates by means of V_7 sounds—becoming $\mathrm{IV}^{1}_{3<}$—into a variety of minor keys, as the analysis shows. The F♯ minor key is "assumed"; it comes at the beginning of a new phrase. The final cadence leads back to F major; the V_7 of G minor is to be regarded as $\begin{cases}V_7\\ \mathrm{II}\end{cases}$ followed by $\begin{cases}{}^{6}_{5}\\ V\end{cases}$ and it, in turn, by V_7 and I.

Lesson: Supplement the work of reconstruction of examples of §8 with some additional modulations, based on the chords mentioned at the beginning of §25.

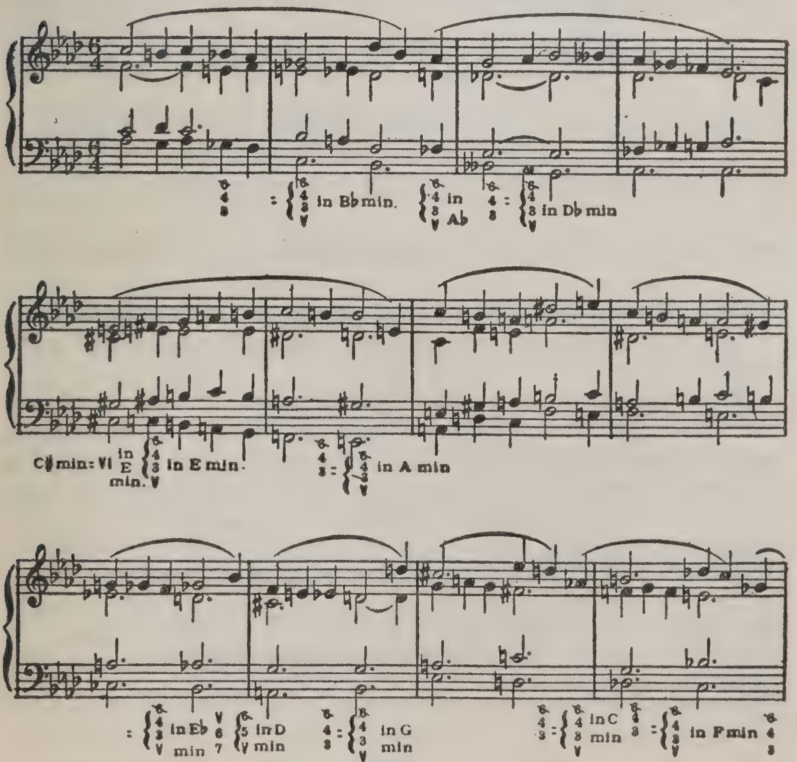
§26. One of the possible IV formations in minor is $\overset{13a}{\mathrm{IV}^{9}_{3<}}$; its sound is that of a V_9 and it must be regarded as an extension of $\mathrm{IV}^{7}_{3<}$. It has been analyzed as a IV formation in a major key in §10 but it is really much more at home in minor key cadences on account of the presence of the interval of the minor 7th.

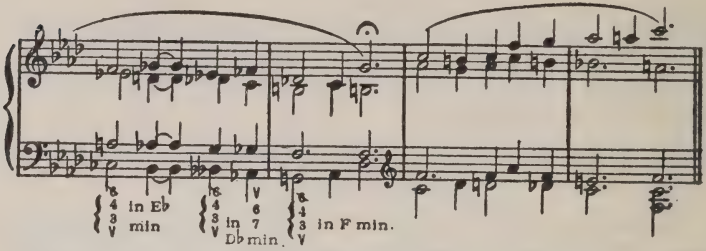
Lesson: Reconstruct the first example of §10 so as to make it end in G minor. The second example proves that it is possible to use a $\begin{cases}V_9,\\ V\end{cases}$ altho a major formation, in the cadence of the minor key. All that is necessary is to substitute D♭ for D♮ in the soprano following the $\begin{cases}V_9,\\ V\end{cases}$ and the cadence in B♭ will sound quite natural. Example 4 may easily end in E minor and example 6 in A minor. Add to these a few examples of your own.

§27. The $\left\{\begin{matrix}\overset{18}{V_9}\\ V\end{matrix}\right.$ is a rather valuable cadential chord and possibly of greater effect in the minor than the major cadences. See §14a for detailed analysis.

Lesson: Rewrite the endings of the examples furnished for §14a and invent a few similar modulations.

§28. **This** deals with the last of the IV formations in minor cadences. The chord is the $\left\{\begin{matrix}6\\4\\3\\V\end{matrix}\right.$ number 22 in the list. Nothing needs to be added to the description of the same, given in §15. Of the examples furnished with that paragraph, numbers 1, 2 and 4 may be used with minor endings. The following example provides still a few more modulations with this chord.


in B♭ min.
in A♭
in D♭ min
C♯ min: VI
in E min.
in E min.
in A min
in E♭ min
in D min
in G min
in C min
in F min



Almost all of the many modulations in this example turn into minor keys, as the added analysis will readily show. Every $\begin{smallmatrix}6\\4\\3\end{smallmatrix}$ is accounted for in both keys. The relationship of the harmonies leading from measure 12 to measure 13 was omitted for lack of space. The last chord of measure 12 changes enharmonically to F♯-A♯-C-E $= \left\{\begin{matrix}6\\4\\3\\V\end{matrix}\right.$ in E minor; the first chord in measure 13 must be read as B-D♯-F-A $= \left\{\begin{matrix}6\\4\\3\\V\end{matrix}\right.$ in E♭ minor. The V^6_7 in E♭ minor = G♯-B♭-D-F♯ ($\left\{\begin{matrix}6\\5\\V\end{matrix}\right.$ in D major) followed by A-C♯-E♭-G = $\left\{\begin{matrix}6\\4\\3\\V\end{matrix}\right.$ in D♭ minor; and V^6_7 in D♭ minor equalling $\left\{\begin{matrix}6\\5\\V\end{matrix}\right.$ in C major is followed by $\begin{smallmatrix}6\\4\\3\end{smallmatrix}$ of I, which equals $\left\{\begin{matrix}6\\4\\3\\V\end{matrix}\right.$ in F minor! The remaining harmonies are all parts of the F minor tonality.

Lesson: The same as has been assigned with every paragraph.

This finishes the chapter on modulation. If the work has been done conscientiously it will have provided the student with such vastness of material that he will never be able to exhaust it. And even then, I do not claim that the subject could not have been more fully developed, particularly along the line of compound modulations; but as I have provided a few examples of this kind it is rather unnecessary to pursue the subject any further. There are two books I wish to bring to the students' attention: "One Hundred Modulations" by Max Reger, and Arthur Foote's excellent treatise on Modulation"; both are very much worth while!

CHAPTER XVIII

PEDAL OR ORGAN POINT

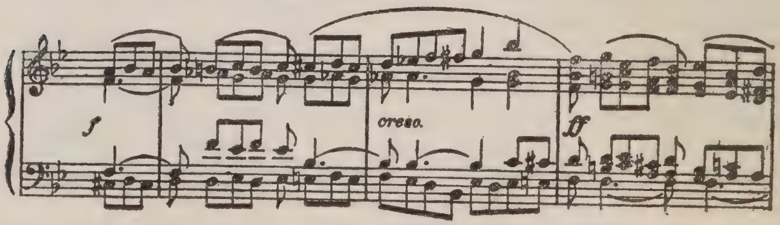
It may seem strange that, in a textbook on harmony, I should have made so little mention of certain melodic devices, such as suspensions, appoggiaturas, passing-tones, etc., etc. My aim has been to show the unobscured harmonic combinations of tones, altho I have not been able fully to accomplish this. Whenever melodic tones were introduced, they have been explained. The intelligent teacher must give a certain leeway to the student, musically gifted, allowing his imagination to express itself. This must never be permitted to go so far as to neglect the full exploitation of the problems of the various lessons. Melodic devices are really the life of contrapuntal expression and should be studied and practiced when counterpoint becomes the principal object of understanding. This will be all the more readily accomplished if the harmonic background of melodic thought has been thoroughly comprehended.

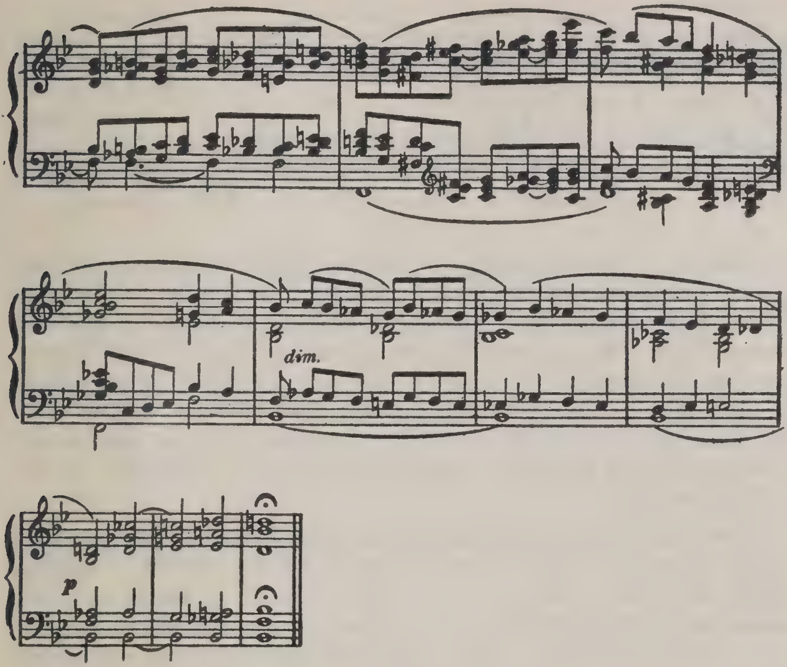
Another important device, encountered in almost every composition, is the so-called pedal or organ point. It is thus named because the organ tone is capable of being sustained for any desired length of time, or as long as air is forced through the pipes. A tone thus sustained is usually given to the pedal keyboard and it used to be either the V or the I of a key. In modern music sustained tones are not necessarily confined to I and V, nor are they always placed in the bass; any tone in any voice may be temporarily sustained, while masses of harmonies pass above, below, or around it; nevertheless the pedal points on the V and I are still the most important. The effect of such pedal points becomes imposing when placed in the coda of a composition, the style of which has been contrapuntal, assuaging the restlessness of the weaving voices striving toward a final point of repose.

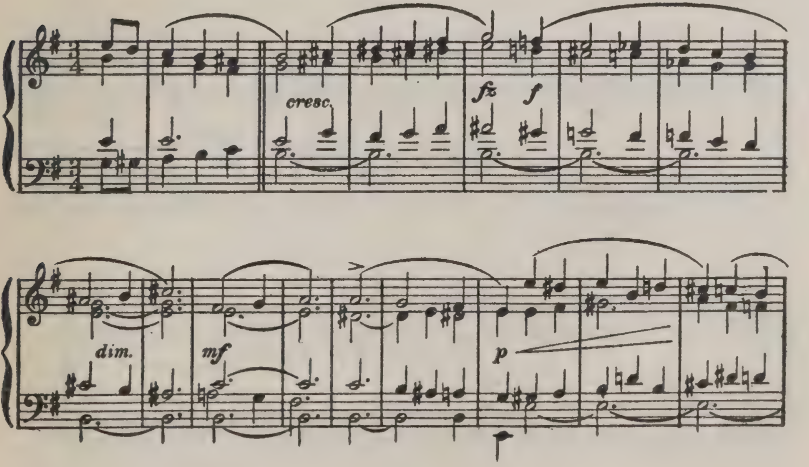
The pedal point on a V must be regarded as a delayed resolution of the V into the final I. It is most effectively begun on I^6_4 which, in itself, is a delayed V. (See chapter on cadences and reread what was said about cadenzas.) The chord formations, growing out of the demands of the melodic thoughts, which may be introduced above a V pedal point are practically unlimited; any combination of tones belonging to the tonality, yes, even modulations into other tonalities may be drawn upon. It must, however, be understood that if the pedal tone lies in the bass the voice next above it must be treated as a middle voice, avoiding distinctive bass progressions, as otherwise two basses result. (This fact is of greatest importance. Compositions written, for instance, for chorus with an accompaniment for orchestra or various instruments must never place independent bass progressions both in the bass parts of the chorus and in those of the accompanying instruments. Both must have the same bass tones, or the chorus bass must be treated as a middle voice; or the chorus bass may become the fundamental voice, while the lowest part of the instruments becomes a middle voice; this last condition is but rarely met with. This same rule holds good in concertos for piano or organ and orchestra.)

The tonic pedal point which frequently succeeds the one on the dominant in a final cadence is perhaps a little more restricted in its possibilities, as it usually assumes the character of a V pedal point of the IV key, producing the effect of a plagal ending. This precludes the emphasis of the V side of the key, which usually furnishes the principal harmonic color for the pedal point on the V.

The $\left\{\begin{matrix}\text{V}\\ \text{IV}\end{matrix}\right.$ character of the I pedal point is even greater when used in the coda of a composition written in a minor tonality. The change of the minor I to major becomes absolutely necessary, otherwise it can not serve as a V to its IV. This is also the main reason why compositions of the pre-classical period written in a minor tonality end most frequently in the parallel major key; the latter producing more or less distinctly the feeling of V and at the same time emphasizing the V character of the overtone series. (See chapter on Overtones.)




dim.
p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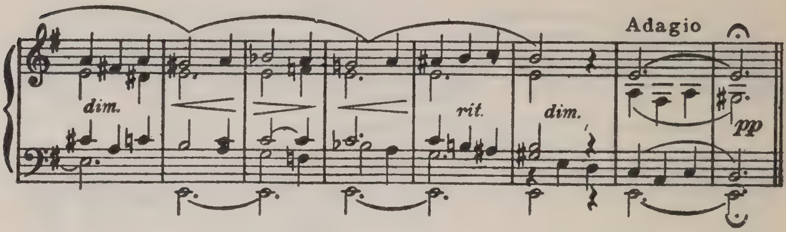
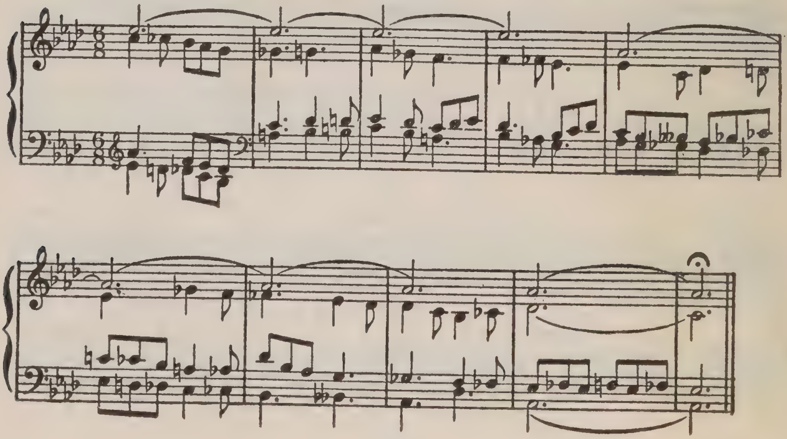
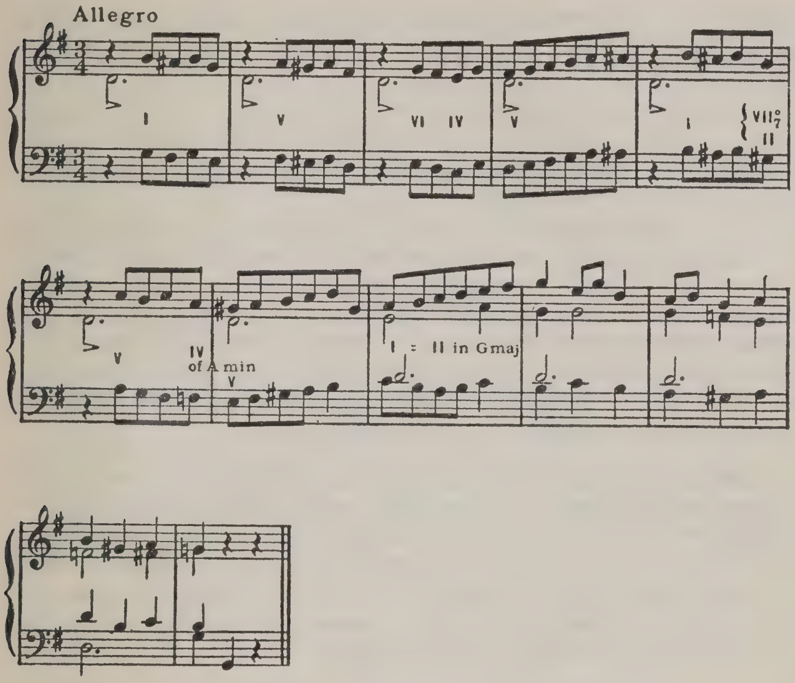


The first two measures of the example in B♭ major are merely preparatory to the pedal point on the V, which in turn is followed by one on the I. It is not difficult to discover that the composition is instrumentally conceived and that it would sound best on the organ, where the F and the B♭ could be sustained on the pedals. The analysis presents no problems. Neither does the example in E minor contain combinations not previously mentioned. Its ending illustrates well the V character of the pedal point on the I.

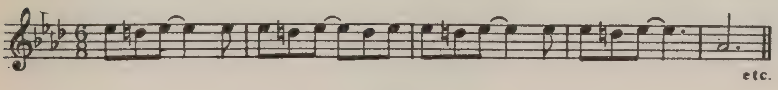
The next illustrations show organ points in the soprano and one in a middle voice. The treatment of the former is almost purely harmonic while the one in the G major example contains numerous melodic tones and for that reason the harmonic analysis has been added. Beginning with measure 8 an additional voice became necessary in order to strengthen the harmonic background.





There are innumerable forms of pedal points of which I shall only mention a few. Quite a common device is the double pedal point, where I and V are sounded simultaneously in the bass. The best examples are furnished by many of the Musette movements of various Gavottes. (Look up the description of these dance movements in your dictionary; it will help your comprehension of pedal point.)

It is by no means necessary to sustain a tone in order to create the effect of an organ point; it is often varied by the use of its upper or lower changing-tone which if played with sufficient rapidity, creates the trill. It would have been, for instance, rather effective if the soprano in the above A♭ major example had been treated as follows:



This at the same time provides a rhythmic element by means of which every one of the six "beats" of the measure could have been perceived.

The so-called "basso ostinato" (obstinate bass) is another form of pedal point, also by no means confined to the bass part. Any certain "figure" may be repeated with varying harmonic surroundings in any voice.

It is almost needless to mention that pedal points may occur in any place: they are not confined to the cadences. Even a theme may be built on a pedal point and of the many available illustrations I only call your attention to the theme of the Allegro movement of Beethoven's so-called Sonata Pathetique, and to the beautiful song by Cornelius, "A Monotone", which—in the E minor edition—is constructed around the tone B. Do not forego the pleasure of its acquaintance.

Lesson: Write a few pedal points after the manner of the examples furnished. Those who have talent for composition should write a Gavotte with a Musette for a "Trio" movement. As a last remark I wish to reiterate that movement in which all voices participate is the life of music; a stagnant bass is to be avoided, unless the artistic reasons are unmistakably apparent as, for instance, in pedal points.

ANALYSIS

The student who has done the work outlined in this book faithfully and understandingly, aided by natural musical talent, will have advanced considerably toward that desired goal "musicianship" where he can convincingly say that he has "learned to listen"!

He will now be able, at first with the assistance of the teacher, to analyze the harmonic and, to a large extent, the melodic contents of almost any composition written by our masters. He must always remember that not the eye but the ear is the presiding and deciding judge: "not the name, but the sound is the thing!"

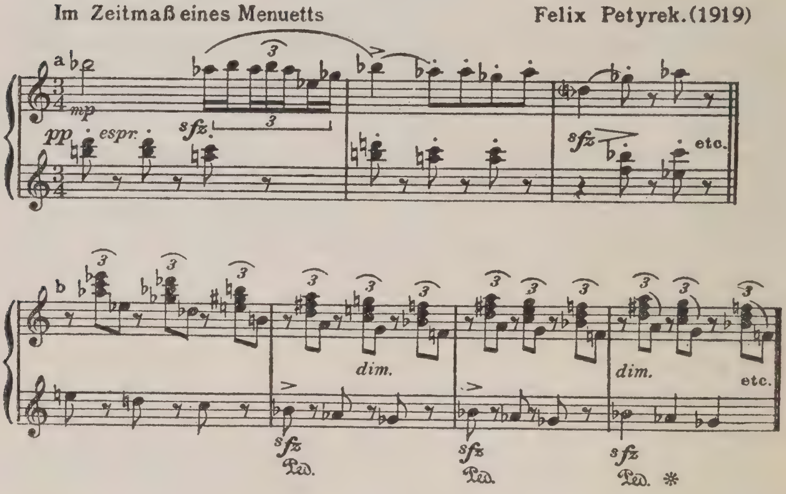
It would be rather presumptuous to suggest certain compositions for this work. I shall only recommend that the student begin with Haydn and Mozart. Of Beethoven's Sonatas the most fruitful are the G major, op. 49; C minor, op. 13; C♯ minor, op. 27; and the Sonata Appassionata, op. 57. Schubert, Mendelssohn, Schumann and Chopin follow in natural sequence, then Brahms and Wagner. Bach cannot be intelligently analyzed until the student has arrived at a comprehensive understanding of counterpoint. The foregoing list comprises what I might call "indispensable works". After the student has accomplished this, he will be ready to analyze the more modern works of French, German, Italian, Russian and American origin which will naturally lead him to the music of the present time, with its new problems, difficult if not, at present, impossible of solution.

CONCLUSIONS

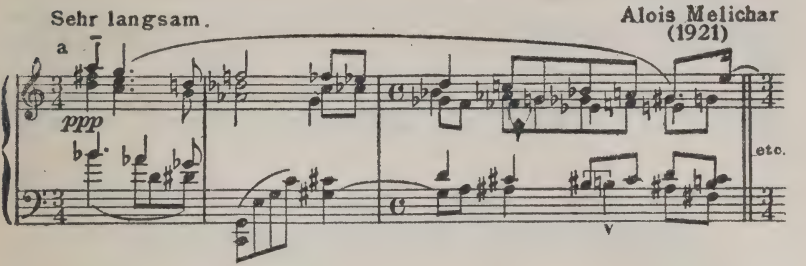
It is invariably futile to forecast artistic developments, as these are governed by an understanding of the spirit of the times. Unrest among peoples, caused by economic and political conditions, is naturally reflected in their artistic expression. A noticeable change of this expression takes place in the early 90s of the last century. Debussy, the refined colorist, elegant and frothy,—Strauss, self-complacent, painter of huge orchestral canvases, presumably based on a psychological understanding of world-problems,—Reger, the weaver of kaleidoscopic colors,—Schoenberg, the true musical socialist, trying to overthrow all that which has become sacred through tradition—these men become the leaders and teachers of our present generation. Each has a host of disciples, a list of whom would include every well-known composer of any land, up to 1914; all of whom add their part to the growing restlessness.

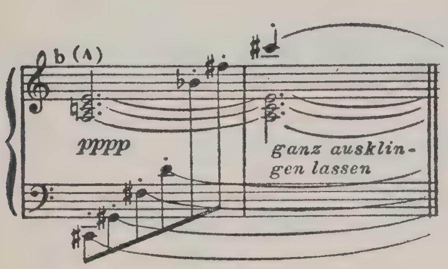
The spirit of unrest breaks its bounds in 1914, engulfing practically the whole world with its annihilating powers, obliterating all standards and values.

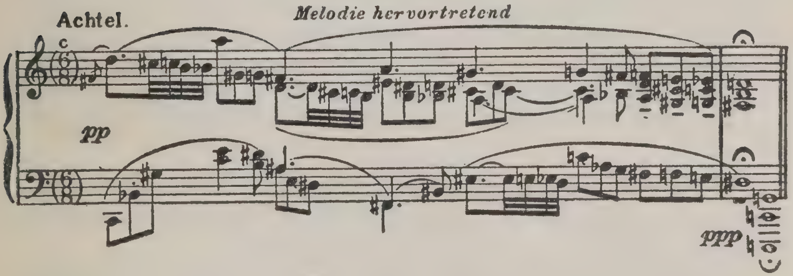
After it has run its course, it leaves nothing but "Chaos". Music did not escape! Its standards, values and traditions are no longer acceptable to the young composers of to-day, who grew up during those frightful years. They have broken with the past and are trying to rule the world of music with their new ideals. But what are these? First of all, these composers deny that tonalities are necessary and have substituted what they term "Atonality", the absolute negation of key. But does this spell progress? I am inclined to deny it. Such a condition is simply musical communism, where all compositions have everything in the way of musical material in common, with the inevitable result that all compositions sound alike. Individuality can no longer be claimed nor traced; national and racial characteristics are completely obliterated. The only distinguishing features left are: time, tempo and rhythm, which, however, can hardly be considered of equal importance with the sound of "musical colors" based on the key relationship of the tones of which the melodies, with their inherent harmonies, consist. I have examined a number of works by these latest composers, from which a few measures of various compositions are appended.



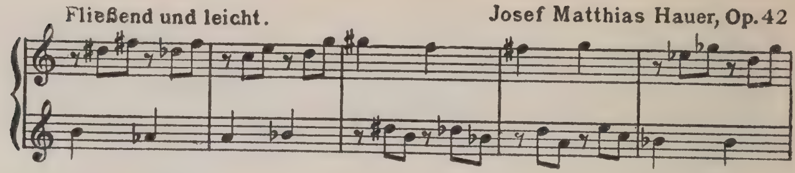
Petyrek, born in Vienna, 1892, was a pupil of Schreker's and is considered one of the prominent living composers. The two examples are from one of his piano pieces, called "Dance With the Shadow". There is nothing incomprehensible about the sound, particularly if one takes the title into consideration; it is evident that the left hand is to be regarded as the "shadow" of the melody. The chords in example **b** are based on the whole tone scale and simply represent "units of sound", of which I shall speak later on. A more complex problem is found in some piano pieces by Melichar, a 20 year old Dutch composer.

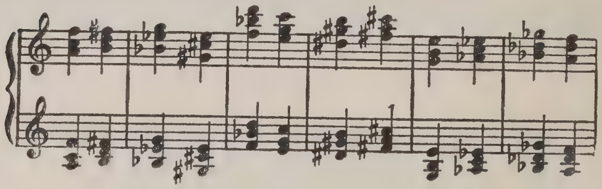

Sehr langsam.
a
Alois Melichar
(1921)
ppp
etc.


b (A)
pppp
ganz ausklingen lassen


Achtel.
c
Melodie hervortretend
pp
ppp

Example **a** presents the first few measures of a piece which ends with the measures marked **b**; the last one **c** represents a complete musical thought. They come perhaps nearest to being "atonal" and yet the first one produces a faint effect of the key of D, while the one at **b** creates the impression of the key of F. The next excerpt is from the "Barock Studies for Piano" by Hauer. Hauer has a host of followers, who proclaim him the founder of a new school of music.





(The sharps and flats hold good only for the notes before which they are placed.)

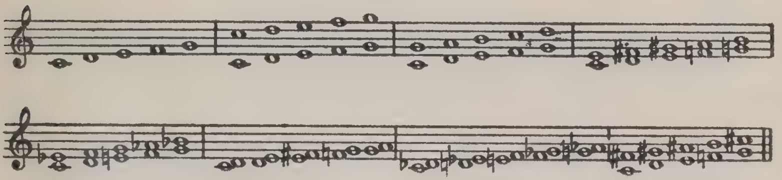
It is hardly fair to judge a composer's importance by one composition, but the above "samples" illustrate perfectly what Hauer claims is the newness of the musical thought involved: austerity of melody, uninfluenced even by rhythm. He certainly achieved his purpose in the composition cited, where the above quoted excerpts are used with hardly a variant through its entirety. The effect is not so much "barock" as "cubistic". Again we find that the so-called chord is to be regarded as a unit of sound.

The tonal effects of the compositions of Casella, the young Italian composer, are also largely the result of the creation of a melodic line by means of compound sounds.

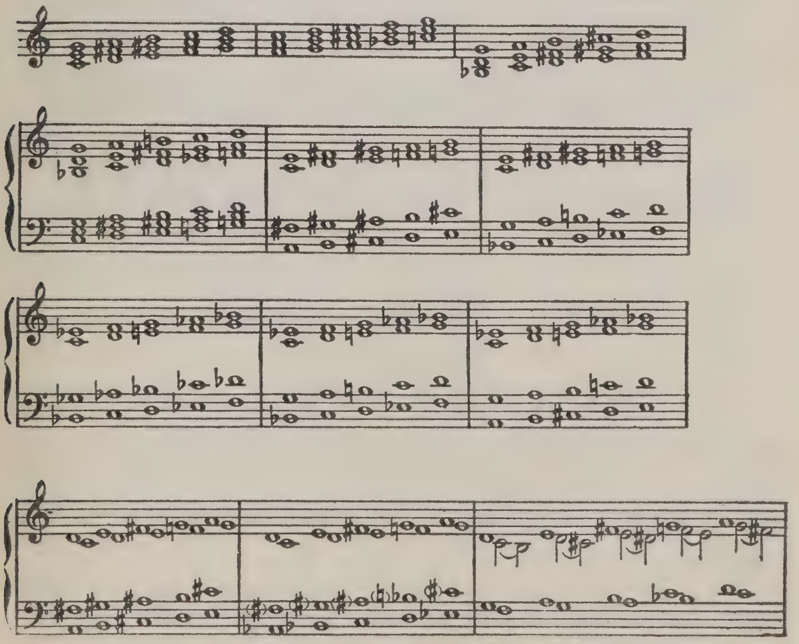
The natural limits of this book make further quotations impractical. Furthermore: it will not be difficult for the student to find similar material in the works of some of our American composers. He might even find it among the compositions of his classmates.

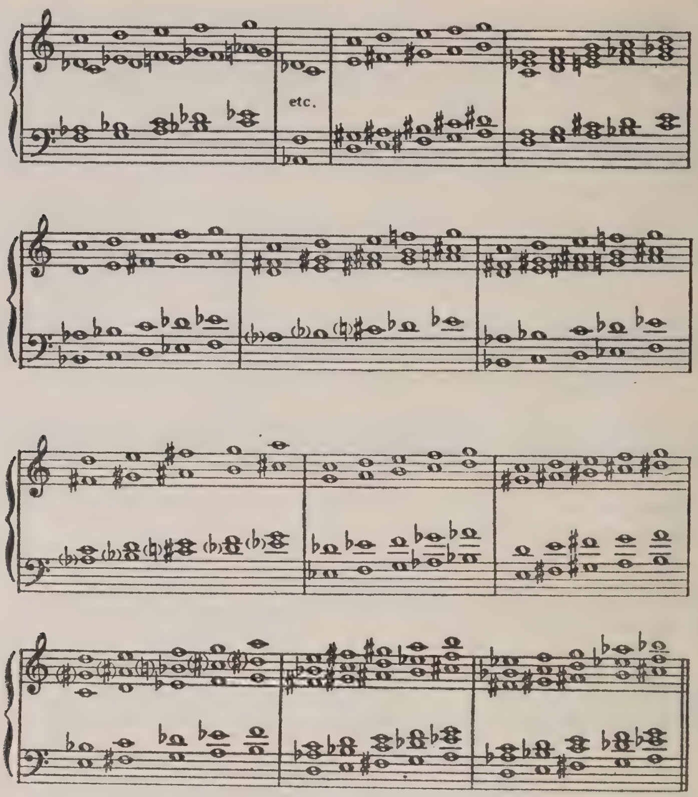
I have chosen the above quotations because they prove distinctly the existence of two widely divergent paths. One, represented by the atonality, will probably lead nowhere, for reasons mentioned before; the other, based on the single melody colored by means of "units of sound", can be traced as far back as the Organum of the 12th Century.

A single tone appears to us as such only so long as the mind does not become conscious of its overtones. If the overtones are emphasized by actually sounding them, a given succession of tones, called a melody, may thus be played along with its octaves, or fifths, or thirds, or sevenths, or ninths—in fact, in conjunction with any interval, or combination of intervals—creating merely "units of sound" which may possibly be moved with the same freedom as the single tone. The following illustrations are based on the simplest melodic progression.

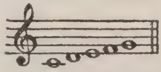


These intervals can be inverted and combined at will, creating triads, seventh and ninth chords.





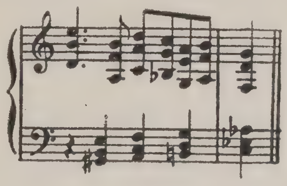
If one realizes that all the above combinations are based on the simplest melodic progression:

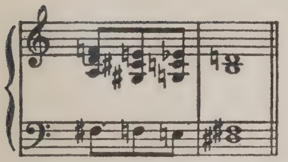


that every example contains this succession of tones; that any number of similar combinations are possible; that all of them may be inverted; that they may be played in reverse order, etc., etc.; then there really loom possibilities of color effects as yet not touched upon.

To make my meaning clearer: A melody consisting of single tones may be likened to a thread in a primary color of which a design (melody) is woven. If the different strands in such a thread are of **different colors,** the thread still remains a **unit,** with which designs may be created; so may the melodic strand consist of different sound colors, being used as a "sound unit" in the melodic weave.

The human ear is already becoming accustomed to the mixed color tone; it accepts such units of sound as:





(see example **c** by Melichar)

with more or less assumed complacency, but will it be as ready to accept **combinations of melodies,** the strands of which consist of mixed-color tones? That is, at present, at least, an open question.

Such then is the status of our present day music: there is no well-defined road towards a definite goal. Confusion, almost chaotic, has to be conquered before truly great works can again be created. There is a comforting thought in the fact that this beautiful world was created out of "chaos" and we may rest assured that the **beauty of music** will assert itself forever. But the creative musician must realize that progress, or rather evolution, is the result of linking the present with the past, in order to prepare the future; and if the study of the material contained in this volume has been a help toward that realization it has fulfilled its purpose.

To-morrow is problematic, to-day is real, yesterday begins with Bach!

THE END

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